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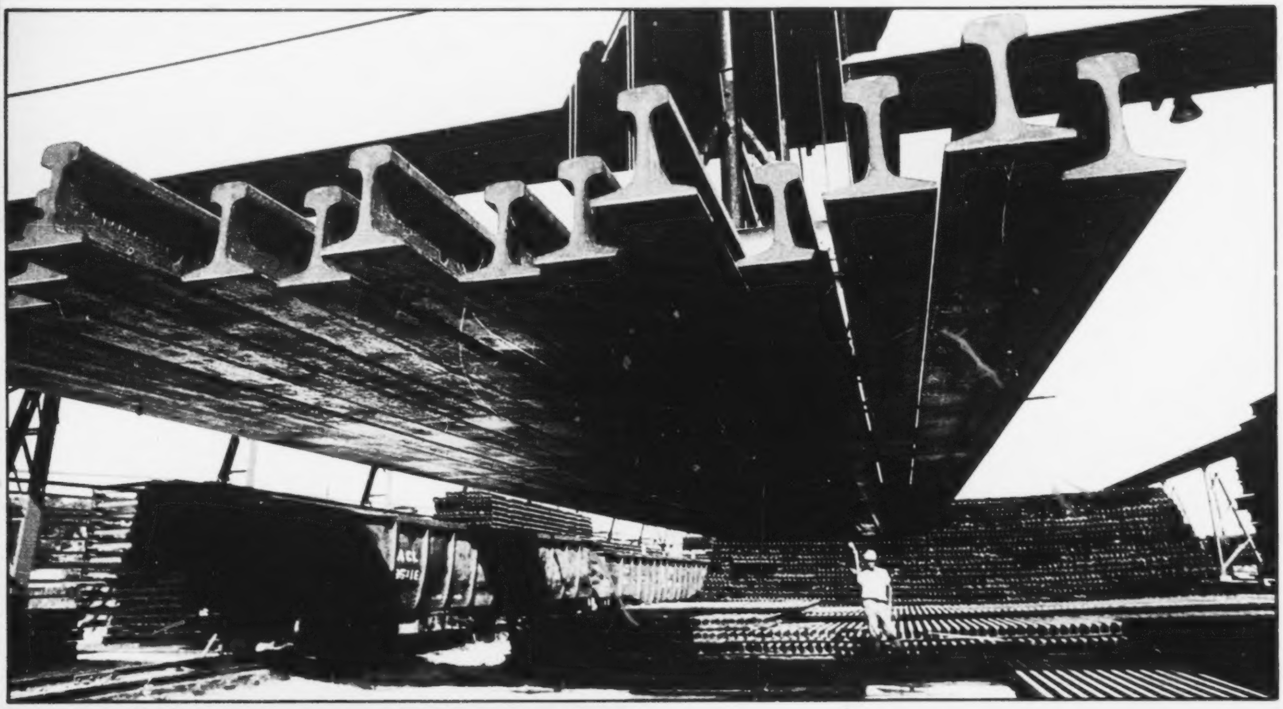
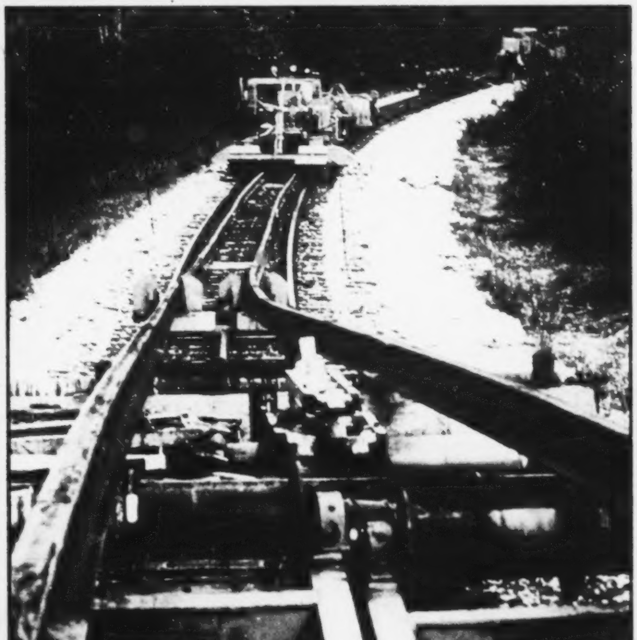
Moving people: Los Angeles gets ready to dig

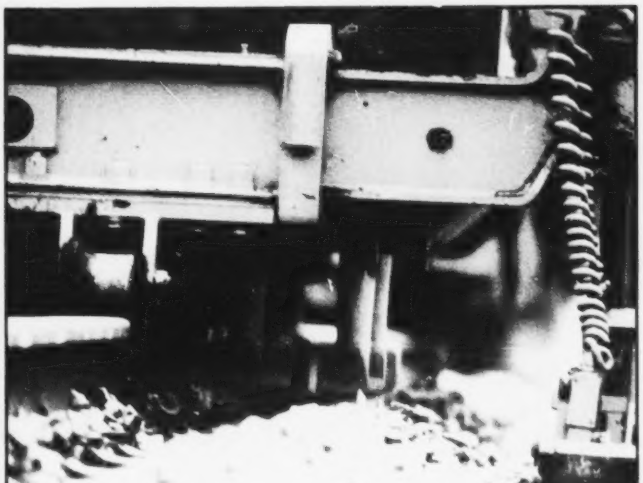
October 8, 1979

RAILWAY AGE





Southern: Reliable service demands reliable track



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Inside

LUTHER S. MILLER

SOUTHERN'S TRACK RECORD

"A railroad and proud of it" was the headline that *Forbes* magazine placed over a recent article on the Southern Railway— and those six words pretty well sum up the Southern story. Southern is not into the conglomerate scene. As *Railway Age* observed a couple of years ago, this is a railroad "where every activity funnels into a single-minded effort: moving a carload of freight from shipper to consigneee with the greatest efficiency and at the lowest cost that men, machines, and money can devise."

In no other Southern activity has the men/machines/money combination been put to work with more salutary results than in track maintenance.

Southern had men like Bill Brosnan who, earlier than anyone else, recognized the threat that the escalating cost of labor would pose to a well-maintained right of way; as a result, Southern, earlier than anyone else, began to mechanize: when the machines were not available, Southern invented them; and Southern, more than most railroads, has been able to produce the earnings that could be plowed back into the roadway.

As a result of all these things, Southern today has one of the best maintained properties anywhere in the world. "For the last several years," writes Associate Editor John Armstrong in this issue's cover story, "Southern has consistently had the highest expenditure on maintenance of way and structures of any of the 14 largest railroad systems in the United States. Over a four-year period its average was 61 cents per thousand gross ton-miles." One reason the Southern has been able to achieve this distinction goes back to its early decision to mechanize m/w. Southern today invests only about 64 cents in labor for each dollar's worth of track material installed. The industry as a whole, at latest report, was paying about 96 cents in labor per dollar of material.

So Southern's track record is a good one—but, as we suggested at the outset, it's part of a bigger story. Harold Hall, the railroad's new president (succeeding L. Stanley Crane, who has become chairman of the board and chief executive officer), put it into context in these words some time ago: "We are not in business to fix tracks, or repair locomotives, or to run a management committee per se. We are in the transportation business purely and simply to be of service to the shipper."

Or, as the headline over our Southern track story in this issue (p. 24) puts it: "Southern lays a firm foundation for reliable service."

BACK ON THE MASTHEAD: KIZZIA AND MIDDLETON

Effective with this issue, two familiar names reappear on our editorial masthead. Tom Kizzia returns to *Railway Age* as an associate editor in our Washington office, where he will be writing mainly about government, transit, and Amtrak affairs. Tom worked in our New York office following his graduation four years ago from Hampshire College; for the last couple of years he has lived in Homer, Alaska, where he was managing editor of the *Homer News*. His free lance work has appeared in *True* magazine, *Popular Mechanics* and the *Washington Post*.

Our other returnee is William D. Middleton, who is resuming his former relationship with *Railway Age* as a contributing editor. During a recent Navy assignment in Japan, Middleton wrote extensively on Far Eastern railroads for our companion publication, *International Railway Journal*. He has now retired from the Navy, with the rank of commander. His writing credits include a three-volume work on rail electrification.

RAILWAY AGE

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24 Southern: A firm foundation for reliable service

Chairman L. Stanley Crane and Vice President-Engineering Walter W. Simpson describe the Southern's philosophy and practices in maintaining that part of the railroad where service reliability begins—the track.

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Railway Age *previews some of the products that will be exhibited by members of the Railway Engineering-Maintenance Suppliers Association concurrently with the annual meetings of the Roadmasters and Maintenance Way Association of America and the American Railway Bridge and Building Association.*

48 Los Angeles gets ready to dig

Remaining obstacles to construction of an 18-mile subway in the Wilshire corridor are more procedural than substantive, and the Southern California Rapid Transit District expects to have its first trains running within seven years.

52 Amtrak: Year-around savings from recycled heat

By incorporating heat exchangers in the ventilation system of its turboliner maintenance shop at Rensselaer, N.Y., Amtrak is saving both energy and money.

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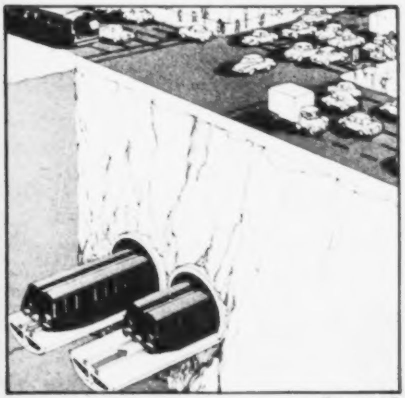

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COVER: Southern's rail yard and welding facility at Atlanta; laying continuous welded rail; tamping the ballast.

REVENUES AND EXPENSES OF RAILWAYS

Second quarter figures of calendar year 1979

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

		Operating revenues				Operating expenses: Maint. of way & structures			Operating expenses: Maint. of equipment			Operating expenses		Operating ratio		Income after fixed charges		Net Ry. operating income	Net income	
		Freight	Other	Total 1979	Total 1978	Total 1979	Total 1978	Deprec.	Total 1979	Total 1978	Deprec.	Total 1979	Total 1978	1979	1978	1979	1978		1979	1978
Amtrak	3 mos.	—	102,578	102,578	80,627	16,745	9,451	554	67,292	60,731	9,200	246,320	213,633	240.0	270.0	(2,113)	(4,495)	(143,736)	(2,113)	(4,495)
	6 mos.	—	180,665	180,665	152,627	33,258	24,364	922	129,664	119,422	18,272	479,435	428,365	270.0	280.0	(14,916)	(13,265)	—	(14,916)	(13,265)
Atchison, Topeka & Santa Fe	3 mos.	450,196	11,259	461,455	389,647	81,252	79,566	2,785	95,482	83,210	17,635	408,865	360,078	88.6	92.4	50,820	25,277	40,742	38,696	18,710
	6 mos.	844,596	21,533	866,129	733,980	148,967	139,359	5,528	186,202	160,987	34,874	783,610	687,433	90.5	93.7	77,688	37,926	—	61,259	29,144
Baltimore & Ohio	3 mos.	240,908	10,973	251,881	224,998	44,155	39,825	1,734	59,561	53,370	6,948	224,646	197,218	89.2	78.3	23,265	25,918	28,651	18,860	22,634
	6 mos.	430,224	22,211	452,435	365,243	72,771	64,140	3,483	110,222	100,073	13,702	419,210	362,710	92.7	80.2	28,485	(4,514)	—	23,665	446
Bessemer & Lake Erie	3 mos.	29,806	3,621	33,427	26,026	3,082	3,272	364	6,178	4,431	786	20,037	16,019	59.9	61.6	13,366	10,051	6,908	6,886	5,887
	6 mos.	47,110	4,952	52,062	33,264	5,723	6,685	718	10,374	5,552	1,579	36,894	25,624	70.9	77.0	15,651	7,829	—	8,122	5,736
Boston & Maine	3 mos.	27,023	1,371	28,394	23,429	8,098	4,169	276	7,110	5,984	624	29,760	22,184	104.8	94.7	(861)	1,216	1,306	27,318	1,009
	6 mos.	51,202	2,345	53,547	44,456	13,260	8,682	554	14,860	12,646	1,250	56,213	45,763	105.0	102.9	(1,879)	(1,428)	—	26,097	1,838
Burlington Northern	3 mos.	602,473	18,507	620,980	497,772	124,699	97,695	5,114	138,601	111,806	15,962	563,163	468,192	90.7	94.1	67,573	34,812	58,897	68,626	36,545
	6 mos.	1,079,400	35,808	1,115,208	944,493	207,444	171,823	10,059	260,466	217,848	31,822	1,041,107	890,767	93.4	94.3	99,448	65,454	—	109,018	68,404
Chesapeake & Ohio	3 mos.	199,825	11,225	211,059	190,619	38,741	34,666	1,336	44,341	40,476	5,781	187,926	173,816	89.0	91.2	42,009	37,893	19,953	38,885	31,938
	6 mos.	362,513	20,171	382,684	286,974	64,417	55,884	2,658	90,837	75,089	11,481	359,522	312,233	93.9	108.8	49,021	(33,503)	—	45,699	(15,436)
Chicago & North Western	3 mos.	167,142	19,294	186,436	166,160	35,618	30,625	726	50,574	42,207	4,498	181,779	156,525	97.5	94.2	(176)	5,327	4,653	(213)	5,290
	6 mos.	303,990	36,681	340,672	310,851	73,597	57,506	1,391	105,371	86,177	8,947	368,977	313,624	108.3	100.9	(38,004)	(10,797)	(28,346)	(38,077)	(10,269)
Chicago, Milwaukee, St. Paul & Pac.	3 mos.	103,144	13,743	116,887	116,465	23,730	19,951	1,079	42,193	38,811	4,460	137,985	129,275	118.1	111.0	(15,172)	(9,839)	(21,078)	(15,172)	(9,839)
	6 mos.	185,893	24,533	210,427	214,948	43,997	36,921	2,165	90,975	76,121	9,034	277,497	254,135	131.9	118.2	(59,053)	(33,999)	(67,056)	(59,053)	(33,999)
Chicago, Rock Island & Pacific	3 mos.	94,088	7,526	101,614	98,443	13,901	14,305	726	39,632	29,802	3,512	115,412	98,223	113.6	99.8	(16,237)	(2,217)	(13,803)	(16,237)	(2,211)
	6 mos.	172,047	13,982	186,029	185,092	27,584	26,296	1,453	79,180	58,992	7,028	225,598	191,877	121.3	103.7	(45,016)	(12,277)	(39,573)	(45,016)	(12,277)
Clinchfield	3 mos.	15,222	355	15,577	17,335	3,356	3,032	103	3,187	3,684	1,026	13,316	13,429	85.5	77.5	96	43	2,695	—	—
	6 mos.	29,661	690	30,351	28,275	7,093	6,275	203	6,755	6,695	1,827	27,201	24,792	89.6	87.7	171	113	—	—	—
Colorado & Southern	3 mos.	21,037	520	21,557	15,812	5,393	5,218	55	4,773	4,608	664	22,210	16,960	103.0	107.0	1,846	(66)	190	2,6[illegible]	(22)
	6 mos.	40,086	901	40,987	28,976	8,878	8,012	107	9,821	8,443	1,328	39,307	29,676	96.0	102.0	8,906	2,706	2,859	10,086	2,725
Conrail	3 mos.	843,057	151,530	994,586	858,927	232,536	224,416	2,568	275,603	280,298	17,627	1,071,911	1,019,654	107.8	118.8	(71,758)	(159,914)	216,658	(71,274)	(159,445)
	6 mos.	1,561,090	292,346	1,853,436	1,564,672	397,729	380,411	5,101	559,788	552,098	33,957	2,071,254	1,944,142	111.8	124.4	(211,512)	(384,815)	—	(210,632)	(383,954)
Delaware & Hudson	3 mos.	24,226	530	24,755	22,866	4,394	3,204	152	8,115	7,484	404	26,418	23,549	106.7	103.0	(1,937)	(1,620)	1,661	(1,937)	(1,620)
	6 mos.	46,460	1,177	47,636	42,617	8,278	6,451	305	15,695	14,574	812	50,820	46,379	106.7	108.8	(4,214)	(5,290)	—	(4,214)	(5,290)
Denver & Rio Grande Western	3 mos.	66,654	1,596	68,249	56,229	12,438	10,741	584	10,473	8,518	2,467	54,867	45,412	80.4	80.8	13,466	10,701	8,287	8,293	6,228
	6 mos.	121,619	2,878	124,497	101,768	23,263	18,725	1,160	19,969	16,077	4,837	103,298	84,912	83.0	83.4	21,727	17,035	—	13,934	10,234
Detroit, Toledo & Ironton	3 mos.	20,435	1,443	21,879	18,724	4,083	2,218	129	5,793	4,791	434	20,313	15,701	92.8	83.9	1,504	2,881	1,577	1,504	2,881
	6 mos.	40,982	3,082	44,064	33,638	6,590	4,563	258	11,407	10,598	862	39,013	32,928	88.5	97.9	4,872	467	5,074	4,872	467
Duluth, Missabe & Iron Range	3 mos.	24,637	1,362	25,999	21,745	6,102	5,903	501	2,836	2,401	589	18,342	17,821	70.0	81.0	7,925	4,215	3,594	3,861	2,163
	6 mos.	40,280	1,987	42,267	37,487	10,776	9,906	867	5,621	4,355	1,314	35,706	32,719	84.0	87.0	7,197	5,260	—	3,241	1,510
Elgin, Joliet & Eastern	3 mos.	23,152	17,793	40,945	33,146	3,623	4,493	179	5,734	4,351	1,095	27,606	24,672	67.4	74.4	14,601	9,018	6,518	7,760	4,619
	6 mos.	41,694	34,972	76,666	59,497	7,724	7,680	356	12,358	9,255	2,185	56,787	48,436	74.1	81.4	22,214	11,923	9,475	11,809	6,068
Florida East Coast	3 mos.	17,932	499	18,431	16,527	4,001	3,801	234	2,300	1,812	796	14,457	12,742	78.4	77.1	26,635	4,758	(1,061)	18,871	3,040
	6 mos.	36,481	927	37,408	33,238	7,996	7,604	469	5,011	4,116	1,563	28,855	25,906	77.1	77.9	32,410	8,576	—	22,796	5,533
Ft. Worth & Denver	3 mos.	22,146	336	22,482	15,577	3,195	3,223	66	6,455	3,956	99	19,285	14,275	86.0	92.0	3,103	1,064	2,444	2,350	1,057
	6 mos.	42,355	840	43,195	29,869	5,588	5,682	131	11,040	7,062	196	34,448	20,595	80.0	89.0	8,815	3,190	—	7,249	3,183

Grand Trunk Western	3 mos.	54,014	4,344	58,356	50,901	7,550	5,460	738	15,340	13,237	1,172	53,394	46,799	91.5	91.9	5,670	4,255	4,989	5,670	4,255
	6 mos.	101,563	6,417	107,980	95,358	13,204	10,807	1,066	30,703	26,596	2,313	105,484	93,226	97.7	97.8	3,442	2,549	2,496	3,442	2,549
Illinois Central Gulf	3 mos.	197,624	17,977	215,601	192,668	41,050	34,027	1,653	56,827	45,486	7,313	213,736	183,609	99.1	95.3	16,497	2,551	(15,773)	16,028	2,200
	6 mos.	365,129	34,139	399,268	365,498	74,640	63,519	3,316	115,720	98,495	14,554	415,127	362,866	104.0	99.3	(7,518)	(6,181)	—	(8,359)	(6,895)
Kansas City Southern	3 mos.	49,399	2,994	52,393	46,835	11,084	8,651	713	11,908	10,684	2,778	46,316	41,092	88.4	87.7	5,874	5,146	5,030	4,787	3,673
	6 mos.	96,427	6,218	102,644	92,421	20,394	16,699	1,259	23,415	20,977	5,626	91,180	81,024	88.8	87.7	10,909	10,221	—	9,026	8,239
Long Island	3 mos.	5,148	70,628	75,777	35,817	20,837	15,657	839	18,077	14,995	1,323	83,995	70,009	110.8	195.5	(8,549)	(34,298)	7,178	(8,549)	(34,298)
	6 mos.	9,798	136,333	146,131	68,912	38,031	30,290	1,678	35,442	29,727	2,634	161,671	138,494	110.6	201.0	(16,053)	(69,759)	—	(16,053)	(69,759)
Louisville & Nashville	3 mos.	237,071	6,189	243,260	215,583	41,630	32,468	1,615	60,744	58,651	9,864	225,343	201,820	92.6	93.6	10,080	4,334	17,801	8,939	1,996
	6 mos.	451,244	13,069	464,313	399,478	78,943	60,983	3,082	124,743	118,144	19,743	446,103	397,803	96.1	99.6	(720)	(19,396)	—	(2,026)	(21,655)
Missouri-Kansas-Texas	3 mos.	36,895	1,692	38,587	35,496	7,597	6,154	272	12,048	10,336	586	39,641	34,108	102.7	96.0	(2,544)	218	2,739	206	1,468
	6 mos.	71,857	3,240	75,097	66,748	15,436	12,009	543	22,057	19,353	1,082	76,534	65,639	101.9	98.3	(4,552)	(445)	—	(367)	2,455
Missouri Pacific	3 mos.	344,411	11,337	355,747	306,594	60,454	48,518	2,391	79,467	70,289	12,751	306,685	258,558	86.2	84.3	43,402	43,623	38,839	30,843	29,974
	6 mos.	657,832	22,070	679,902	579,409	110,933	90,942	4,734	155,993	134,869	25,334	590,901	499,948	86.9	86.3	76,289	68,608	70,709	53,298	46,379
Norfolk & Western	3 mos.	361,152	12,582	373,734	351,738	59,900	51,500	3,136	67,359	54,331	15,389	290,070	253,280	77.6	72.0	88,614	98,069	50,877	54,605	68,569
	6 mos.	672,590	25,073	697,663	553,964	100,554	81,188	6,254	125,864	112,731	30,771	545,515	465,833	78.2	84.1	158,391	79,168	—	100,762	55,905
Pittsburgh & Lake Erie	3 mos.	18,237	1,724	19,961	16,952	2,865	2,701	190	2,210	314	2,055	15,260	11,651	76.4	68.7	4,231	4,119	3,400	2,932	2,785
	6 mos.	31,652	3,570	35,222	26,987	5,525	5,199	380	4,794	2,298	4,114	29,791	24,431	84.6	90.5	4,922	(144)	4,224	3,729	871
St. Louis-San Francisco	3 mos.	107,512	3,621	111,133	104,221	19,970	19,055	816	23,727	21,296	3,579	100,393	90,804	90.3	87.1	7,269	9,177	9,662	5,831	8,714
	6 mos.	205,443	6,816	212,259	193,467	36,398	33,510	1,633	48,087	40,549	7,175	194,668	172,210	91.7	89.0	10,210	13,753	—	7,970	12,864
St. Louis Southwestern	3 mos.	67,468	581	68,049	59,229	10,803	10,965	334	11,925	10,420	5,484	56,029	49,602	82.3	83.7	13,610	9,836	10,943	12,531	8,141
	6 mos.	129,003	1,206	130,210	113,648	20,859	20,419	662	21,453	19,855	10,795	105,358	95,971	80.9	84.4	27,077	17,157	—	25,576	13,831
Seaboard Coast Line	3 mos.	249,925	8,413	258,338	232,155	45,737	34,809	1,911	60,927	53,910	7,738	232,624	203,831	90.0	87.8	36,397	31,965	26,585	37,185	31,890
	6 mos.	488,710	16,528	505,239	451,972	87,398	65,953	3,805	118,926	110,458	15,388	452,199	400,423	89.5	88.6	56,878	31,237	—	57,595	33,033
Soo Line	3 mos.	68,291	1,655	69,946	61,229	14,179	13,044	307	14,839	12,150	1,775	61,107	53,027	87.4	86.6	8,708	8,109	7,868	5,684	5,083
	6 mos.	125,609	2,808	128,417	116,100	23,624	20,619	609	28,608	23,631	3,554	116,273	99,164	90.5	85.4	12,667	16,205	—	7,829	10,256
Southern	3 mos.	356,551	9,613	366,164	335,674	70,066	60,818	4,739	65,564	57,979	16,584	293,944	264,030	80.3	78.7	65,258	64,473	108,351	50,758	44,312
	6 mos.	684,383	19,493	703,876	615,338	131,088	103,289	8,756	129,992	111,016	32,806	570,555	493,802	81.1	80.2	114,058	105,402	—	86,594	73,121
Southern Pacific	3 mos.	484,016	12,464	496,480	428,463	70,888	67,336	4,850	131,292	120,032	18,582	458,032	413,485	92.3	96.5	43,422	19,798	46,929	37,967	15,316
	6 mos.	915,349	22,911	938,260	822,560	138,671	132,353	9,428	251,348	227,061	35,492	882,601	802,896	94.1	97.6	65,945	27,479	—	60,008	22,478
Union Pacific	3 mos.	431,958	7,091	439,049	380,188	79,314	68,481	2,595	78,757	69,252	20,789	371,879	322,707	84.7	84.9	57,691	49,576	99,378	42,116	33,878
	6 mos.	825,787	14,104	839,891	735,222	136,976	116,342	5,165	157,276	129,960	40,890	707,275	609,772	84.2	82.9	114,354	106,479	—	81,150	71,811
Western Maryland	3 mos.	19,367	1,188	20,555	20,766	3,580	3,522	122	2,388	2,458	1,262	15,725	15,370	76.5	74.0	4,475	5,059	4,920	3,397	3,774
	6 mos.	34,504	3,082	37,586	31,174	6,345	5,694	244	5,969	5,545	2,399	30,787	28,887	81.9	92.7	7,030	2,081	—	5,136	1,559
Western Pacific*	3 mos.	41,235	973	42,208	—	5,691	—	77	11,191	—	1,639	41,484	—	98.3	—	1,056	—	618	890	—

*This is the initial report of the respondent who purchased the assets and business of WPR and its subsidiaries as of April 1, 1979.

Market

CARLOADINGS

Loadings of revenue freight in the week ended Sept. 15 totaled 485,261 cars, according to the Association of American Railroads. This was a decrease of 6,052 cars, or 1.2%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Sept. 15 are estimated at 17.9 billion, an increase of 2.2% above the corresponding week of 1978.

REVENUE FREIGHT CARLOADINGS

Commodity	Sept. 15 week	Sept. 8 week
Grain	29,064	25,491
Farm products	3,322	2,793
Metallic ores	41,947	38,784
Coal	115,456	99,505
Crushed stone, gravel & sand	17,889	16,124
Nonmetallic minerals	17,976	15,758
Grain mill products	17,357	14,921
Food and kindred products	18,965	16,364
Primary forest products	21,104	17,531
Lumber & wood products (except furniture)	12,056	9,579
Pulp, paper & allied products	20,450	18,642
Chemicals & allied products	28,721	25,753
Petroleum products	6,101	5,842
Stone, clay & glass products	19,283	16,328
Coke	6,276	6,514
Metals & products	18,124	17,236
Motor vehicles & equipment	20,325	16,975
Waste & scrap materials	13,732	11,205
Forwarder & shipper assn. traffic	12,296	10,482
All other carloads	44,539	37,215
LCL traffic	278	393
Total cars loaded	**485,261**	**423,435**
Cumulative total,	**1979**	**1978**
37 weeks	**16,947,035**	**16,345,066**
Estimated revenue ton-miles (billions)		
37 weeks	**634.3**	**599.8**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Sept. 8 totaled 30,307 cars (6.5% below the corresponding 1978 week) and 52,819 trailers or containers (down 6.2% from 1978). Cumulative volume for the first 36 weeks of 1979 is 1,284,042 cars (up 1.9% from 1978) and 2,266,218 trailers or containers (up 4.1% from 1978).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended Sept. 7 totaled 4.96 million tons (up 1.5% from 1978). Cars loaded totaled 71,322 (up 0.1% from 1978). Cumulative loadings for 1979 were up to 176.2 million tons (up 11.3% from 1978).

- *Amtrak.*—Capital budget authorizations for the next three fiscal years are: $203 million, 1980; $244 million, 1981; and $254 million, 1982. The bulk of the money, which is to be provided by the federal government, is expected to be spent for new cars.

- *Baltimore/Miami.*—A contract has been awarded to Westinghouse Electric for the supply of solid-state chopper controls, motors, gear, and car-carried train control equipment for 192 rapid transit cars that the Budd Co. is building for service on new transit systems now under construction in Baltimore and Miami.

- *CN Rail.*—Will purchase 1,000 additional grain hopper cars at an estimated cost in excess of $40 million.

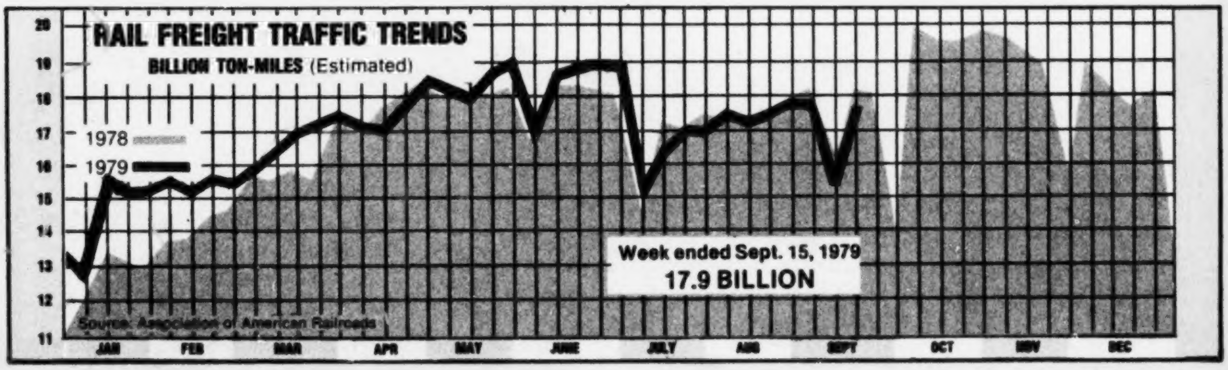
- *Chicago Regional Transportation Authority.*—Ordered six jet snowblowers from Portec at a cost of $623,000. Each of RTA's five commuter roads will get one snowblower; the remaining machine will be assigned to Union Station.

- *Conrail.*—Is spending $4.4 million to upgrade three yards in the Harrisburg, Pa., area. The program includes $2.85 million for rail, crosstie, and surfacing work at Enola Yard; almost $1 million for crosstie and surfacing work at Rutherford Yard; and more than $600,000 for rail, crosstie, and surfacing work at Harrisburg Yard.

- *Greater Cleveland Regional Transit Authority.*—Plans to put out specifications late in October for 60 rapid transit cars that will replace existing cars on its Windermere-Airport line. The Urban Mass Transportation Administration has now awarded two grants to GCRTA toward paying the federal share of the cars, and is expected to issue a final grant in 1980.

- *Southeastern Pennsylvania Transportation Authority.*—A contract has been awarded to Safety Electrical Equipment Corp. to provide air conditioning and temperature controls, motor alternators and controls, and low-voltage power supplies on 141 light rail cars being built for SEPTA by Kawasaki Heavy Industries of Japan. Two complete systems are to be shipped to Kobe, Japan, early in 1980 for installation on two pilot cars. The remaining 139 cars will be assembled by Boeing Vertol under subcontract from Kawasaki.

- *New Zealand Railways.*—Ordered 10 meter-gauge, 1,500-hp GL22MC locomotives from the Diesel Division, General Motors of Canada, for delivery in third-quarter 1980. Twenty similar units were delivered to New Zealand earlier this year.



RAIL FREIGHT TRAFFIC TRENDS

BILLION TON-MILES (Estimated)

Source: Association of American Railroads

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Railroading for Profit, Part V:
The buyer and his need for quality

October 29, 1979

RAILWAY AGE

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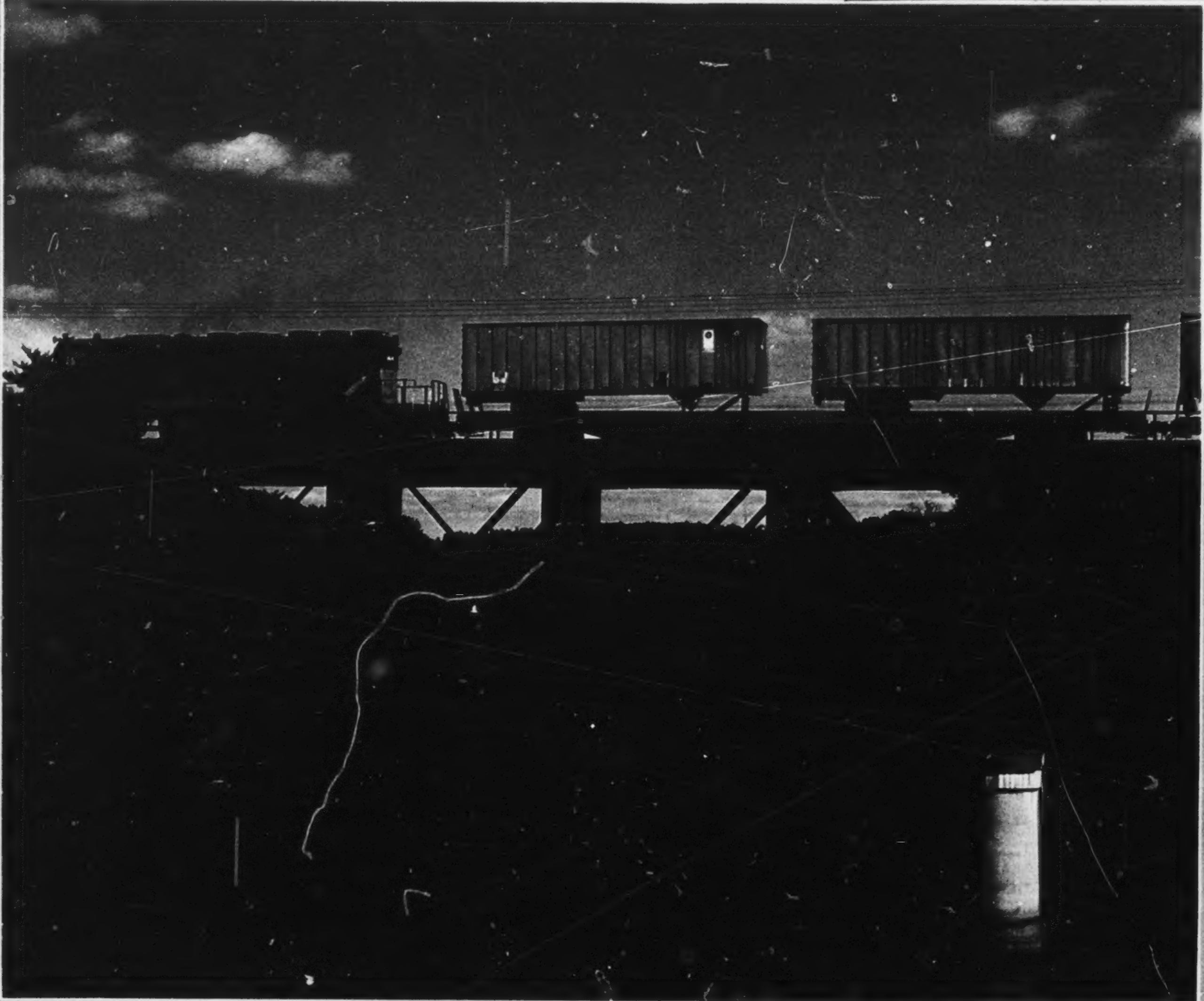
The intermodal alternative:



Looking better all the time

RAILWAY AGE

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Inside

LUTHER S. MILLER

INGRAM: "WE LEAVE WITH PRIDE..."

On Wednesday, Oct. 3, Rock Island's six top officers were notified by RI Trustee William M. Gibbons that their services would no longer be required. The trustee acted on written instructions from Vernon C. Coe, president and general manager of the Kansas City Terminal, the Rock's ICC-appointed "directed service" carrier. Among those dismissed were three who had been most prominently identified with the railroad's struggle to stay alive: John Ingram, president; John D. Mitros, executive vice president; and Chris Knapton, vice president-public relations and government affairs. On Oct. 4, Ingram put out the following message:

"To: Rock managers, supervisors, newly created officers, overworked volunteers—in short, the hardest-working railroaders anywhere.

"Five years ago the so-called experts said the Rock couldn't last six months. The fact that we lasted ten times that long is due entirely to the sweat, imagination, determination, innovation, and raw American stubbornness of men and women who were determined to prove the experts wrong. You all did that admirably and well. Today's unhappy capitulation is not your fault. It is the fault of extreme weather for three winters running coupled with overwhelming increases in fuel prices as well as a deep-seated conviction in Washington that this property must be divided. The government's goals were obtained only through the help of mother nature and the Arabs.

"I wish you all the best of luck. John Mitros and Chris Knapton join me in that sentiment. You have supported us in the face of the fiercest challenges. You have always responded when called upon to do the untried. You have earned the admiration of railroaders everywhere....

"It has been an honor to have held this job. We leave with pride in what has been accomplished and with regret that events moved too fast for success."

Was there, in fact, a "deep-seated conviction in Washington" that the Rock had to die so that the carcass could be carved up? Senior Editor Gus Welty has examined the documents in the case; he reports his findings in the news analysis that appears on page 8.

RAILROADING (AND SUPPLYING RAILROADS) FOR PROFIT

How are railroad suppliers performing insofar as quality control is concerned? Are railroads themselves contributing to a downturn in quality control with their erratic buying practices?

Should suppliers bear the brunt of R&D—or must railroads share the burden to a greater extent than they now do?

Is there enough competition among suppliers? Is there too much?

To what extent should purchasers hew to a "Buy America" policy?

There are no easy answers to these questions; you certainly won't find them in our report, "The buyer and his need for quality," the latest in our Railroading for Profit series (p. 40). What you will find is a thoughtful, and we believe useful, discussion of the railroad-supplier relationship. Senior Editor Gus Welty's own conclusion, after extensive talks with both sides, is this:

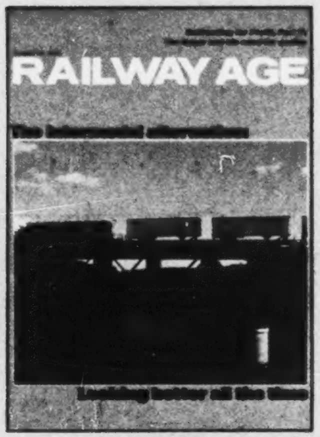
"Right now, both railroads and their suppliers have good deals going—railroads with a lot of competition going, foreign and domestic, and suppliers with order books that don't have a lot of room left, this year, next year, and in some cases, the year after that.

"But for the long pull? For profitability on both sides, buyer and seller, responsibilities have to be accepted on both sides."

RAILWAY AGE

October 29, 1979

FEATURES



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TOFC/COFC

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40 Railroading for Profit: Product quality

An examination of the factors that determine the quality of the products railroads are getting from their suppliers—including R&D, competition both at home and abroad, and long-range railroad buying programs (or the lack of them.

48 How SP cuts empty-car miles

The railroad's strategy means, among other things, that some time-honored traditions have had to go out the window—such as sending foreign cars home empty, and seeking rapid return of its own cars, even though empty.

54 Feds back SP bid for Tucumcari line

SP (through its Cotton Belt subsidiary) has long wanted that piece of the Rock that extends from St. Louis to Santa Rosa, N.M., near Tucumcari, and it has now picked up support of both the DOT and the Department of Justice—for reasons that not all western roads will go along with.

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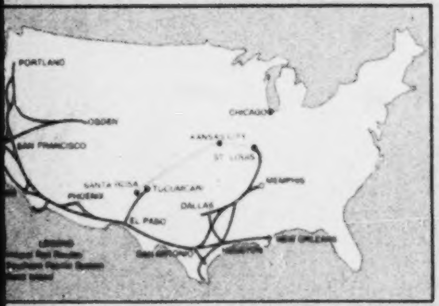

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COVER: A Milwaukee Road "Sprint" train at Wisconsin Dells; photo by Jim Scribbens of the Milwaukee.

FIFTH IN A SERIES

Railroading for Profit

The buyer and his need for quality

By GUS WELTY, Senior Editor

Six or seven hundred thousand dollars, or more, for a new diesel-electric locomotive.

Thirty, forty, fifty, sixty thousand dollars for a freight car, depending on the type.

Twelve thousand dollars for a TOFC trailer.

One hundred thousand dollars for a tamper.

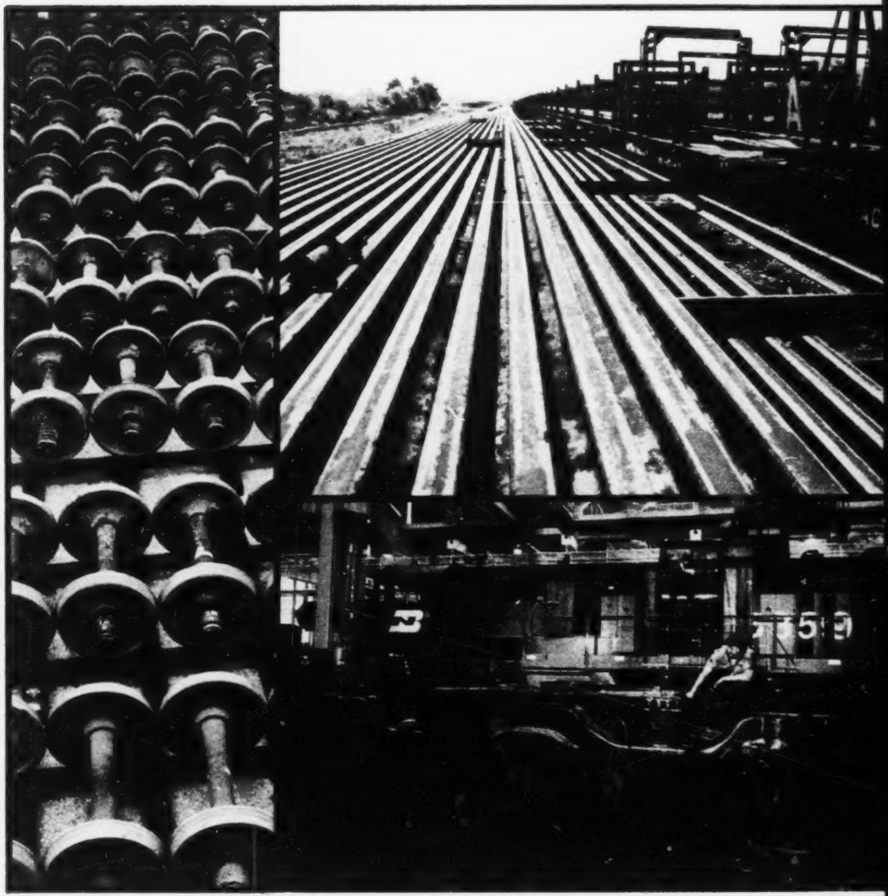
Almost $2.8 billion in capital expenditures last year by Class I railroads alone, with close to $2 billion going for equipment and the rest to the fixed plant.

More than $8.5 billion in 1978, cash expenses, for maintenance of equipment, track, and structures.

Upwards of four billion gallons of diesel fuel consumed in the process of providing transportation for 35.8% of the nation's commerce, four billion gallons purchased at an average '78 price of 38 cents a gallon.

Inflation and the cost of borrowed money well into double-digit figures and climbing.

When all the numbers are collected for 1979, few if any will be down, Most, perhaps all, will be up.



What do the numbers add up to? They add up to a word: pressure. Pressure on those who buy for the railroad industry, pressure on those who sell to the railroad industry. Pressure on the buyer to spend the railroad's money wisely, pressure on the seller to deliver a quality product. Pressure on both buyer and seller to protect and contribute to profitability—railroad profitability and supplier profitability.

Like the relationship between railroad and shipper, the relationship between railroad and supplier has its rough edges, buyer and seller each believing that the other could be doing more to produce a smoother interaction.

And where are the edges roughest? Perhaps in such areas as product quality control, research and development, quantity and quality of competition, foreign buying, and long-range planning of purchases.

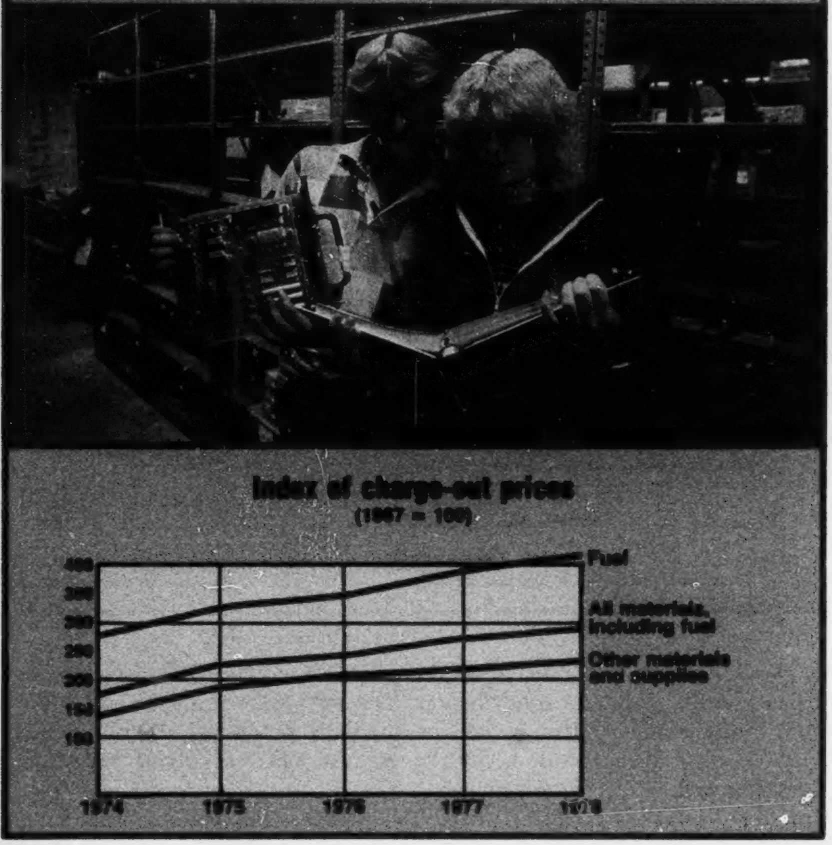
As might be expected, buyers and sellers are not always in agreement on these areas, nor is there even complete agreement among those who are signing the purchase orders.

On quality control, for example, one chief purchasing officer says that it's "generally pretty good." Another regards it as "quite adequate." But a third has this harsher observation: "With regard to which product areas now exhibit good quality control, I would say practically none."

There is, of course, a buyer responsibility as well as a seller responsibility in the product quality area, and the buyer who finds quality control to be quite adequate out-

What can be done to smooth out the rough edges in the railroad-supplier relationship—in such areas as product quality control, R&D, foreign buying, the quantity and quality of competition, and long-range planning?

Trends: inflation takes its toll



lines that responsibility this way: "If a purchasing department has done a good job of eliminating the not-so-reliable suppliers from the bid lists in the first place, the people who do bid on and get the business should be quite capable of furnishing a quality product. If I had to pick an area where quality control was the weakest, I would have to say it's at some of the rail mills in this country, and this is particularly true in the old mills that still use gag presses. In times when business is very good, we have also had some problems in quality control on castings, that is, on side frames and bolsters, couplers, and yokes."

The good-business theme carries over into the comments of another top purchasing officer, whose road is one that sets quality control measurements above and beyond basic AAR requirements. At the root of the quality problems, he believes, is the simple fact that "most vendors of railroad products are at maximum production levels, as they attempt to meet demand for products such as wheels, rail, castings, track tools, track fasteners, and so forth. When this occurs, we always note a significant downturn in quality control."

As for where there's specific room for improvement, he cites freight car castings, wheels—and track tools: "I mention track tools because of the fact that any striking tool without proper hardening of the steel can cause injuries. If the truth were known, many railroads are experiencing an exorbitant number of injuries due to the chipping of track tools, and we are working closely with various manufacturers to remedy this situation."

On the supplier side, manufacturers cite stiffened requirements from both FRA and AAR relating to quality control, but requirements that can be met: "As suppliers, we have progressed to a point where our customers must now determine if they are willing to pay for an even better quality product. By this, I mean that we could supply a 'gold-plated' product, if that is really what they want."

As one major supplier sums it up: "I suspect that volumes could be written on quality control—because it appears to have different meanings to different people. The real effort in quality control should be on the manufacturer to put out a quality product, recognized as such by the industry. If this were being done, the policing as to quality of products would literally disappear—including both railroad and AAR efforts."

On current research and development efforts, buyers would generally give suppliers high marks—but again, with a few reservations. One purchasing officer, for instance, thinks that overall, suppliers "are doing a pretty good job on R&D"—but at the same time he believes that "improvements could definitely be made in the area of foundry items."

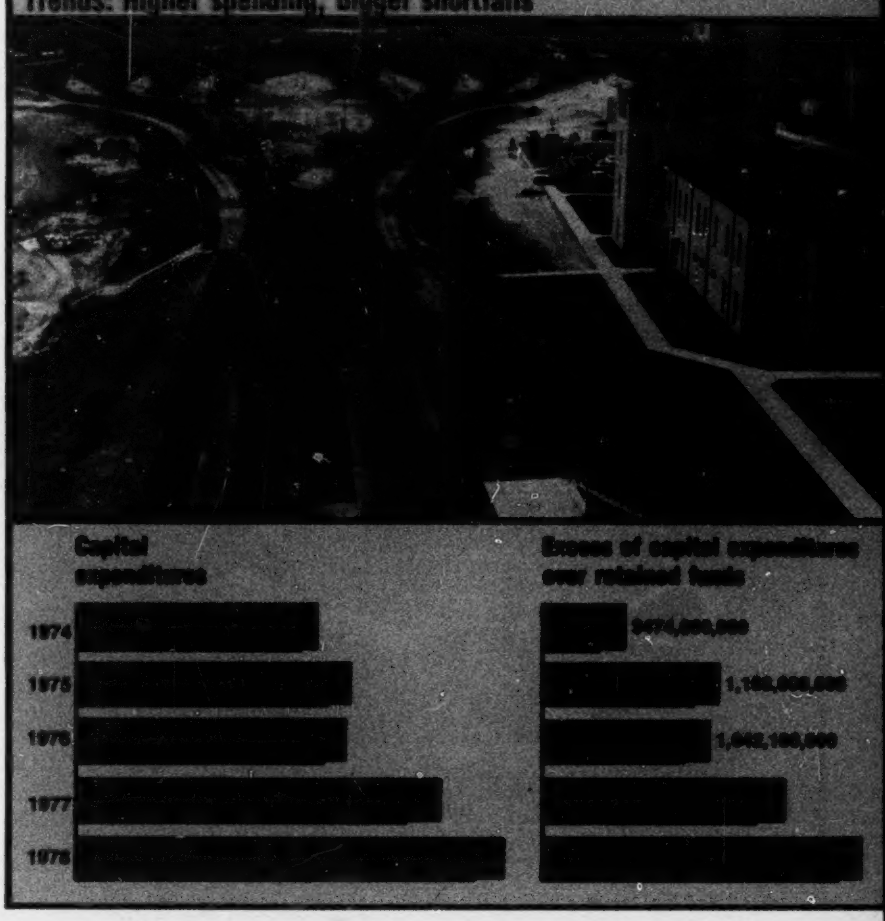
A second buyer sees "significant work being done in R&D to improve most equipment and machines that we use." This however, may be due in large part "to the fact that most suppliers are in a boom situation and have sufficient funds to beef up their research and development operations. Sad to say, when we enter a recession period and railroads drastically reduce their purchasing levels, many of our manufacturers tend to cut down on R&D due to a lack of funds." What could help even out this on-again, off-again situation? Perhaps a greater sharing of the R&D burden by the railroads themselves, not many of which today have a significant R&D capability.

Like their counterparts in mechanical departments and transportation departments, purchasing officers tend to agree that trucks and running gear should get top priority in research and development work. In this context, several cite the "considerable amount" of testing being done at DOT's Pueblo Test Center—though one purchasing officer raises a question as to whether there are enough qualified people now available to analyze the mass of data being produced from operations at Pueblo.

For the most part, suppliers seem to be encouraged by what's happening out there in the Colorado desert, though some continue to question the timeliness and value of reporting methods. And suppliers join wholeheartedly in whatever railroad people have to say about cooperative effort. As one puts it, R&D leading to product improvement "should be shared by suppliers and railroads, with some government-type assistance." After all, he points out, "in order for any supplier to be able to develop a new product, he must be able to get the help of the railroads in order to test it, and since the AAR is the approving body, naturally their cooperation is needed also." This supplier's view: "Good R&D leads to a better product and, therefore, helps the railroads—and so a better and more cooperative relationship among all parties is required."

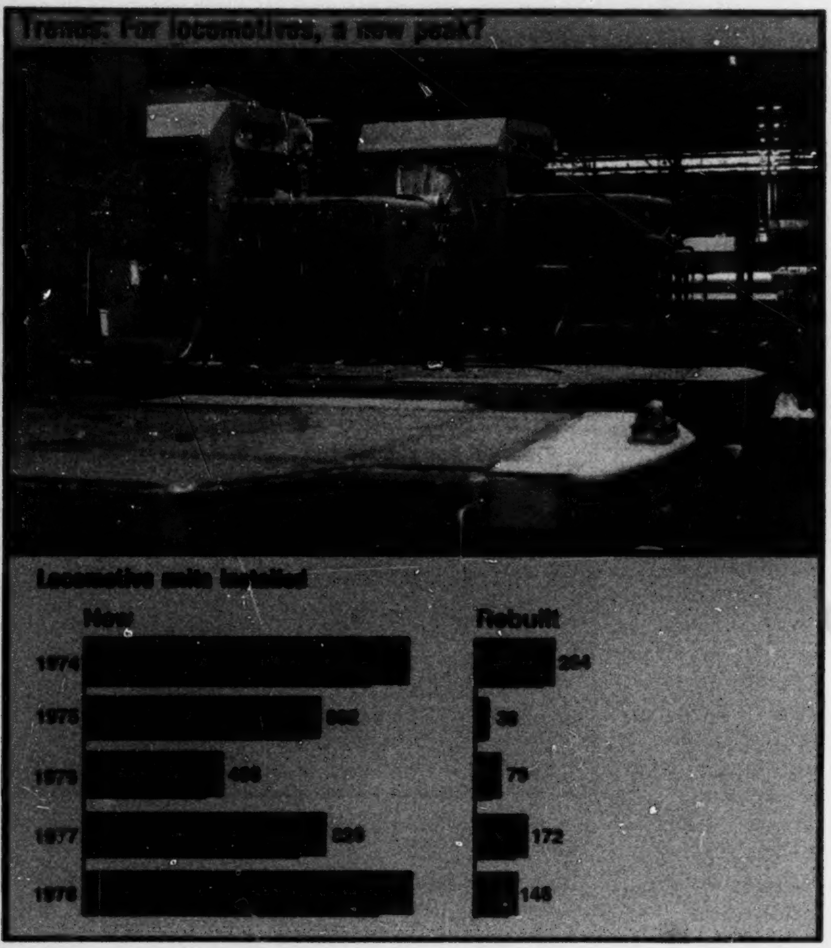
Another manufacturer is in general agreement, though he puts the emphasis a little differently: "The main burden of R&D lies with the suppliers, because they have the most to gain. However, R&D must be a cooperative effort, with the railroads providing help in defining future needs and the government supplying some financial backing."

Trends: Higher spending, bigger shortfalls



Then, there is that matter of competition in the supply industry—and while it would be hard, no doubt, to find a supplier welcoming more competition, at least some purchasing officers see a few areas where another producer or two might find a place in the market. One buyer cites the areas of castings, wheels, rail and track work, and locomotives; another mentions locomotives and bearings—but overall, purchasing agents are not really complaining about lack of competition.

"Over most product lines," one observes, "there is, in fact, enough competition." Another agrees, with a couple of exceptions: "In most of the areas in which we buy there's enough competition and there are ample supply options; although all are not of equal quality, they are available. Of course, one of the areas where we used to have all kinds of competition but no longer do is the area of diesel fuel oil and diesel lube oil—which happen to be


Trends: For locomotives, a new peak?

among our largest dollar volume purchases. In addition, certain carbuilders seem to have specialized to the extent that there are only one or two sources of supply for certain types of cars."

Yet another top purchasing officer, also agreeing that there's sufficient competition in most areas, does note that on locomotives and roller bearings "we have only two domestic suppliers."

Then there is what has long been the nature of the business: up, down, up, down. As one buyer observes, in the freight car area "there appear to be enough carbuilders to offer competition—until we get into a market such as we are in now, where lead times are anywhere from 18 to 24 months. Then, competition means nothing—and it simply becomes a matter of who has available space. Due to the fact that railroad purchasing is highly cyclical, we're faced with the problem of having an inadequate number of suppliers in peak periods and not enough purchasing power to support these producers when we are in our famous valleys. Therefore, railroads contribute to the problem."

One of those carbuilder-producers couldn't agree more: "The railroads that we sell to have, in some cases, long-range buying plans—but some of the very large railroads do fail to communicate with carbuilders and other suppliers about their long-range purchasing plans. Frankly, I think this is an area where great improvement could be made—with railroads establishing three- to five-year projected buying plans and placing this business as early as possible. This, in turn, will allow builders and suppliers to do good production planning—which would reduce costs. Railbox has recently taken this position, and I think in the long run they will benefit from their planning. Under today's conditions with respect to purchasing, financing, contracting, and so forth, railroad buyers must realize that longer lead times on their requirements are essential in order to avoid the 'shotgun' effect which has existed in this industry for years. Business is just too complicated today for businessmen to avoid long-range planning. Railroads must recognize that good long-range planning definitely aids them in their cost reduction programs."

Amen: "Some roads plan well and some don't. The general feeling is that they do not plan far enough in advance—although we are seeing more cooperation now because of the 'crunch' situation. Still, railroads need to be more open and definititive about their buying plans."

Planning may in fact be the biggest problem facing both buyer and seller, as some buyers and sellers insist it is. And while planning tools have become better during the 1970s, the peaks and valleys have still been there—down to the valley in the 1974-75 recession, up to the peak during the past couple of years, years that have been complicated by a surge of nonrailroad buying of railroad equipment. Back in '75, few in the industry might have forecast the peaks purchasing has reached, and fewer still would have forecast buying levels staying so long on the high side. But spending is up; some believe it's going to stay up for the foreseeable future—if railroad earnings are allowed to rise and railroads are thus able to take advantage of their energy efficient position in transportation—and that high level of spending has created its own set of problems.

One of those problems, both for railroads and for domestic suppliers is foreign sources of supply.

Railroad purchasing agents are somewhat ambivalent.

One will note that offshore suppliers "generally do a good job on quality and delivery schedules." At the same time, he backs away from a policy that would be detrimental to U.S. suppliers, and he fears that during a downturn foreign supply sources might present problems because of long lead times and dollar fluctuations.

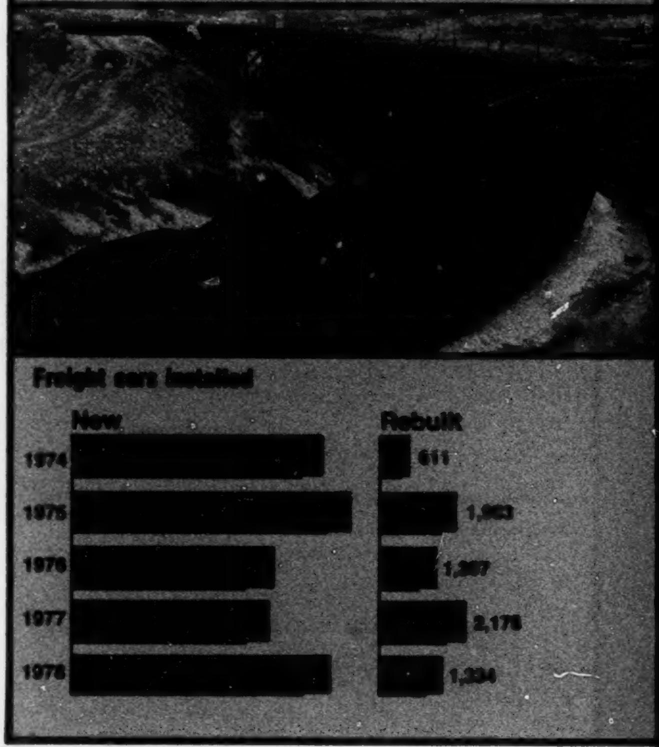
Another buyer points out that today, "to meet certain schedules, we are forced to go overseas for certain products." While he does not believe railroads should adhere strictly to a "Buy America" policy, he would like to see most purchasing done in this country. A possible exception is rail, especially rail to be installed on curves; the quality is good, this buyer says, and "we continue to purchase from foreign sources even during normal times."

Yet another buyer brings up factors of both price and supply: "I believe we should buy American unless the cost is 'way out of line, let's say by 30%. On the other hand, if we cannot get a product here which we need to maintain our railroad, then we must go to a foreign country to buy it. The only other reason I can think of for buying off-shore, if you don't have a large disparity in price or you don't have a shortage in supply, would be to maintain a relationship with the foreign source—in anticipation of another shortage." But, this purchasing officer adds, "When railroad buying turns down from high levels, American suppliers get more competitive—and, it seems, the foreign suppliers get less competitive. It all becomes a question of capacity and supply and demand."

That question, as it happens, is more critical in some areas than in others. One of the critical areas is heavy castings, where several domestic manufacturers are spending many millions of dollars to increase capacity even as railroads and carbuilders are bringing in castings from, almost literally, all over the world. What happens, then, when the inevitable downturn in demand for castings comes? In the words of one castings manufacturer, "we're putting a lot of money into a good-faith attempt to increase our production capacity. We would certainly hope for—and expect—a good-faith response from the people we sell to."

A carbuilder adds these observations, looking at today and at the future: "I've always been an advocate of support for American manufacturers of all products for the railroad market. Naturally, when we get into an expanded market, additional material supply is needed—and the first place carbuilders and other purchasers run to is the foreign source. This has caused great distortion in the supply market, and, as one result, carbuilders have had to enter into unfavorable long-term contracts with some suppliers who are merely protecting their market." How does he view the problem, long range? "The railroad industry makes its living hauling domestic freight, and for this reason we should give support first to domestic manufacturers. I'm confident that when the demand levels turn down, the foreign manufacturer will suffer the greatest loss—but each time this happens the foreigner is able to hold onto a little greater percentage of the business."

Trends: In freight cars, growth again



What does the future hold, for buyers and sellers, both concerned with profitability? The past, unfortunately, doesn't offer up many answers.

In olden times, which now equates with pre-World War II, railroads did a lot for themselves.

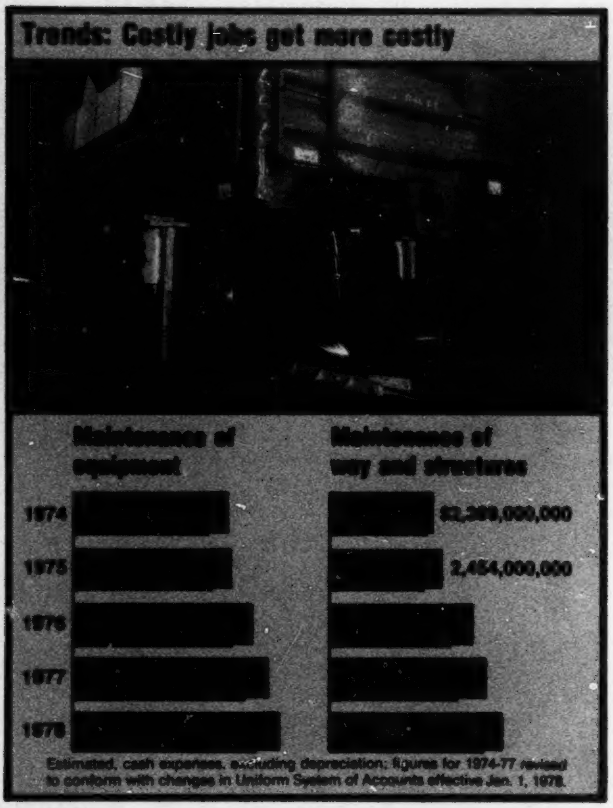
Railroads had big carbuilding operations. Today, you can count railroad builders of new freight cars, major builders, without using all the fingers on one hand.

Railroads, back then, were big in the locomotive business, either in building or in dictating design. Today, locomotives come in basic designs, almost all of them from manufacturing plants in Illinois and Pennyslvania, and while the chief mechanical officer and others involved in purchasing have certain options, the locomotive bears the imprimatur of GM and GE, not the CMO.

Track machines, signal systems, communications gear, computers? Much the same might be said: Railroads have an input, in terms of what they need—but it is the supplier, the GM or the GE or the IBM or whoever, who figures out his own way to meet that need.

This is not a bad situation to be in, actually. Railroads are, after all, in the transportation business, not the manufacturing business, and, for the most part, suppliers are doing an excellent job of listening to railroads when they describe their requirements.

At the same time, railroads appear to be doing a better


Trends: Costly jobs get more costly

Estimated, cash expenses, excluding depreciation; figures for 1974-77 revised to conform with changes in Uniform System of Accounts effective Jan. 1, 1978.

job of communicating internally, among responsible people in transportation, mechanical, engineering, purchasing. And that can only help, in good times as well as in bad. Although not everybody would agree on this, railroads also seem to be improving in their long-range planning capability. Probably there will never be a time when a sharp downturn in traffic will not produce order cancellations; nevertheless, more roads are looking at needs beyond next week or next month.

Suppliers, as in the past, have largely to rely on hope, prayer, and the confidence in their own products. The veteran suppliers have been down the road before—as in the mid-1960s, when a booming market brought all sorts of new people into the supply business, and the later 1960s, when many of those new people became dropouts. There wasn't much foreign competition then, but today there is—and only time will tell whether the foreign suppliers will continue to have any substantial segment of the U.S. railroad market. Only time will tell, too, who will choose—or be able—to survive in the domestic market when the inevitable downturn comes.

The key here may lie in the definition of "the inevitable downturn." A second key, if there is one, may lie in the identification of suppliers who are willing and able to put money into product improvement, R&D, and testing, suppliers who make the needed investment in product and production capacity needed in order to keep up with what might be, in fact, a continuing growth market.

Some top railroad officers question whether technology can take the industry much further, admitting that technology has had a lot to do with preserving it but wondering if technology can do all that much more, absent the improved flexibility in actual rail operations that can come only with new agreements with rail labor.

One chief executive went so far as to observe, publicly, that it could be "that techology alone has taken us about as far as it can." But a top purchasing officer is not so pessimistic. Man has not been able to develop a mode of transportation as efficient as the railroad, he believes, and there's more yet to come, as regards the old steel wheel-steel rail interface: "We've got to keep looking for technological breakthroughs to do our job better, and we need the railway supply trade's expertise and productivity to do it."

As for the supply industry itself, in many cases R&D funds are not lacking, or should not be lacking.

Railroad people sometimes decry the fact that a number of major suppliers either never were in the railroad business primarily or have diversified into other product lines. But just as the formation of holding companies has enabled railroads to diversify—and thus broaden their earnings base—so does a broad base mean something in terms of supplier capability in undertaking R&D and product development related to the railroad industry.

Where is the future, though, for railroads and the companies that sell to railroads?

For suppliers, old and new, who are in the business for the long haul, the future is not bad at all. Railroads will not be less in the marketplace than they have been in recent years, conceding the likelihood of an economic aberration or two. For suppliers who have come in only because they've sensed an opportunity, however, there are testing times ahead. If they come through with decent quality at good prices, they'll make it—and if they don't on either count, they're going to go the way that new entries went back in the late 1960s.

Railroads? There is, most simply put, no way that railroads can keep on with the peak-and-valley thing and expect suppliers to invest heavily in either R&D capability or production capability. Railroads make much of their need for an improved return on investment—but supplier needs in that area are no less, and much-less-regulated manufacturing companies are not going to stay long in markets where there is not a respectable profit to be made.

Right now, both railroads and their suppliers have good deals going—railroads with a lot of competition going, foreign and domestic, and suppliers with order books that don't have a lot of room left, this year, next year, and, in some cases, the year after next.

But for the long pull? For profitability on both sides, buyer and seller, responsibilities have to be accepted on both sides. ■

Market

CARLOADINGS

Loadings of revenue freight in the week ended Oct. 6 totaled 486,316 cars, according to the Association of American Railroads. This was a decrease of 34,488 cars, or 6.6%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Oct. 6 are estimated at 18.4 billion, a decrease of 3.6% below the corresponding week of 1978.

REVENUE FREIGHT CARLOADINGS

Commodity	Oct. 6 week	Sept. 29 week	Sept. 22 week
Grain	31,189	30,002	30,215
Farm products	4,688	3,735	3,636
Metallic ores	37,805	38,234	37,499
Coal	113,345	113,593	110,525
Crushed stone, gravel & sand	17,267	18,765	17,921
Nonmetallic minerals	14,948	16,127	17,324
Grain mill products	17,913	18,397	17,475
Food and kindred products	18,713	19,932	19,137
Primary forest products	20,732	20,594	20,597
Lumber & wood products (except furniture)	11,490	12,460	12,598
Pulp, paper & allied products	21,429	23,135	21,303
Chemicals & allied products	28,525	29,854	28,103
Petroleum products	6,367	6,218	6,199
Stone, clay & glass products	19,697	19,067	19,605
Coke	6,553	6,103	6,049
Metals & products	18,707	19,382	18,655
Motor vehicles & equipment	21,354	22,137	21,189
Waste & scrap materials	13,519	14,152	13,967
Forwarder & shipper assn. traffic	13,740	14,730	14,405
All other carloads	47,931	48,794	48,235
LCL traffic	404	395	375
Total cars loaded	**486,316**	**495,806**	**485,062**

	1979	1978
Cumulative total, 40 weeks	**18,412,617**	**17,689,083**
Estimated revenue ton-miles (billions) 40 weeks	**688.8**	**648.6**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Sept. 29 totaled 38,576 cars (36.9% above the corresponding 1978 week) and 68,978 trailers or containers (up 34.3% from 1978). The large increases were attributed to the strike last year by the Brotherhood of Railway and Airline Clerks. Cumulative volume for the first 39 weeks of 1979 is 1,397,482 cars (up 2.4% from 1978) and 2,466,355 trailers or containers (up 4.5% from 1978).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended Sept. 14 totaled 5.9 million tons (up 9.7% from 1978). Cars loaded totaled 87,485 (up 7.4% from 1978). Cumulative loadings for 1979 were up to 182.1 million tons (up 11.3% from 1978).

- *Louisville & Nashville.*—Will spend $1.86 million to add a second main track on a portion of its Corbin-Knoxville line in order to reduce congestion and delays at Corbin Yard.

- *Santa Fe.*—Ordered two Sperry Univac 1100/82 computer systems, valued at approximately $15 million, for installation at Topeka, Kans. Equipment to be supplied to Santa Fe includes six Univac 8450 disk drives, six magnetic tape units, a high-speed printer and four data communication subsystems per system, and 700 Sperry Univac UTS 400 intelligent terminals. Currently the Santa Fe operates one Sperry Univac 1100/82 computer system. Previously the railroad used two Univac 1106 computers.

- *Southern.*—Placed orders for freight cars, trailers, and locomotives valued at $214 million for 1980 delivery. Car orders include 900 boxcars to be built by Pullman Standard at Bessemer, Ala., and Fruit Growers Express at Alexandria; 500 covered hoppers from Pullman Standard's Butler, Pa., plant; 500 gondolas, 800 pulpwood cars, and 150 wood chip hopper cars from Greenville Steel Car at Greenville, Pa.; 150 wood chip gondolas and 120 coal hopper cars from Ortner Freight Car of Covington, Ky.; and 105 enclosed trilevel auto carriers from Whitehead and Kales of Detroit. Fruehauf will build 1,200 trailers at its Memphis plant. Electro-Motive will supply 76 new locomotives.

- *Freight cars and locomotives.*—The following report has been received from the AAR and the ARCI:

DELIVERED

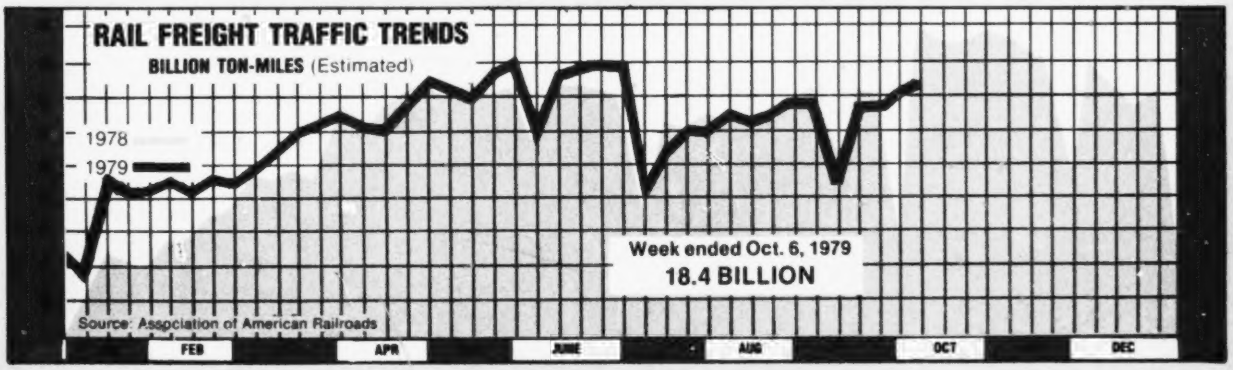
	August 1979	August 1978	July 1979	Eight Months 1979	Eight Months 1978
Built new by carbuilders	7,753	6,198	5,608	55,156	38,151
Built new in RR shops	298	499	266	3,212	3,168
Built new—total	8,051	6,697	5,874	58,368	41,319
Rebuilt	104	0	90	622	1,287
TOTAL DELIVERED	**8,155**	**6,697**	**5,964**	**58,990**	**42,606**
Locomotives (new and rebuilt)	159	91	100	1,112	840

ORDERED

	August 1979	August 1978	July 1979	Eight Months 1979	Eight Months 1978
To be built new by carbuilders	7,519	13,086	6,293	84,482	86,537
To be built new in RR shops	1,200	500	700	2,813	1,284
To be built new—total	8,719	13,586	6,993	87,295	87,821
To be rebuilt	191	0	84	645	122
TOTAL ORDERED	**8,910**	**13,586**	**7,077**	**87,940**	**87,943**

ON ORDER AND UNDELIVERED

	September 1 1979	September 1 1978	August 1 1979	Average Backlog 1979	Average Backlog 1978
To be built new by carbuilders	117,305	78,197	119,793	112,332	52,269
To be built new in RR shops	5,912	4,536	5,010	5,515	5,346
To be built new—total	123,217	82,733	124,803	117,847	57,615
To be rebuilt	110	111	23	103	605
TOTAL ON ORDER	**123,327**	**82,844**	**124,826**	**117,950**	**58,220**
Locomotives (new and rebuilt)	723	883	912	1,068	705



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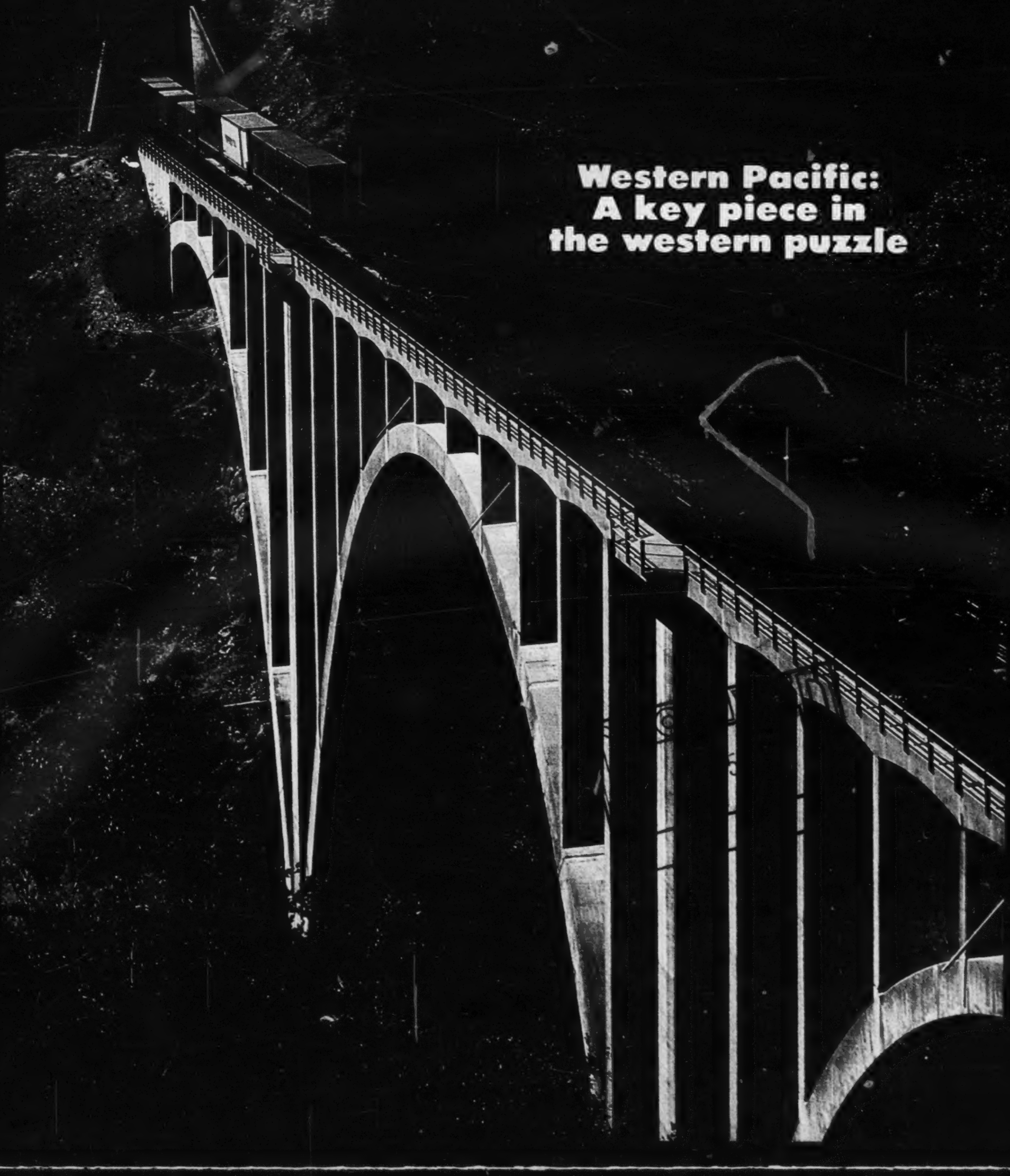
BART: The road is bumpy, but the goal is in sight

November 12 1979

RAILWAY AGE



Western Pacific: A key piece in the western puzzle

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Inside

LUTHER S. MILLER

WP: A FEATHER IN WHOSE CAP?

It isn't every railroad president who will bluntly —even cheerfully—predict the demise of his company. But Western Pacific President Robert G. Flannery is one who does just that. He told *Railway Age* Associate Editor Frank Malone in a recent interview: "I think a large number of the small railroads are going to disappear, including WP." Flannery is, of course, only facing up to what most railroad people believe is the inevitable restructuring of the nation's rail carriers into half a dozen large, strong systems.

If WP seems to be talking like a railroad that is going out of business, it certainly isn't acting like one, as Malone makes clear in his cover story beginning on p. 16. When the time comes to strike a bargain with another railroad, WP wants to be in the strongest possible position, and every corporate effort—especially in marketing and industrial development—is being aimed at that goal. That the WP expects to maintain its present identity for some time to come is also suggested by the fact that it is now painting a new logo on its freight cars and locomotives. The logo is a stylized feather, a reminder to all that the WP 70 years ago achieved a comparatively easy crossing of the Sierra Nevada through the Feather River Canyon.

Fifteen years ago, the Santa Fe and the Southern Pacific waged a bitter fight for control of WP. It was a fight that neither won. In February 1965 the ICC turned down both bids.

In view of the strengthened SP system that would result from that railroad's proposed acquisition of a big chunk of the Rock Island, from St. Louis to Santa Rosa, near Tucumcari, N. M., Flannery suggests that the Union Pacific might find a takover of WP to be a useful counter move.

Western Pacific earlier this year was purchased from parent Western Pacific Industries in a complex deal engineered by the railroad's management. This led to a widespread belief that the WP, like Chicago & North Western, was to become an employee-owned railroad. Not so. The railroad is controlled by its management through the device of a Class B common stock, of which Flannery is the majority holder; but its Class A stock is publicly held and traded.

KEEPING U.S. CARBUILDERS IN BUSINESS

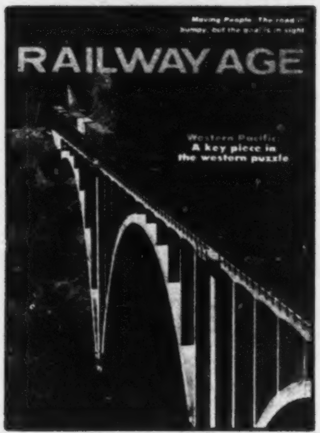
In our Watching Washington column Oct. 29 (p. 10), we reported that Congress, with great reluctance, had agreed to let Amtrak go shopping offshore for new locomotives and passenger cars, if the desired equipment could not be purchased in the U.S. "within a reasonable time." Early in November, the Senate made a move calculated to insure that future orders remain within the U.S. In an action that some observers said was unprecedented, the Senate voted to permit Amtrak to commit money now from its fiscal 1982 budget toward the purchase of 200 low-level passenger cars, 39 locomotives, and an undetermined number of self-propelled cars. Senator Birch Bayh (D.-Ind.) said on the Senate floor: "One of the real problems we have right now is that, if we are not very careful, we will not have any American companies in the transit business. One of the things we can do to insure a sounder transit industry from the standpoint of production, and the production of transportation components, is to make it possible for them to have longer-term contracts." Bayh also said: "I'm getting a little tired of spending American taxpayers' dollars in putting Italian transit workers to work, with all due respect to our Italian friends."

The Senate action—which required House concurrence—would permit Amtrak to commit $148.1 million from its 1982 capital budget for equipment ordered this year or next.

RAILWAY AGE

November 12, 1979

FEATURES


Moving People. The road is bumpy, but the goal is in sight
RAILWAY AGE
Western Pacific
A key piece in the western puzzle

Cover article, page 16

16 Western Pacific: A key piece in the western puzzle

President and CEO Robert Flannery believes the name of the newly reorganized WP is destined to disappear and its physical plant to be incorporated into a single West Coast-Midwest line. Meantime, his aim is "to run just as healthy and independent railroad as we can."

21 Railview: Ratemaking revolution at the ICC

Pointing out that ICC is changing its policy, to get out of the business of running railroads and let the marketplace function, Commissioner Betty Jo Christian discusses further ratemaking changes that are in the offing.

24 FAST track: Making way for more realistic testing

Portions of the FAST track at Pueblo have been rebuilt to permit new and more accurate kinds of testing of track components. Photos show the reconstruction work in progress.

28 BART: The road is bumpy, but the goal is in sight

After a near-disastrous fire and despite a service-curtailing labor dispute, San Francisco's BART keeps working to step up both the safety and reliability of its service.

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COVER: A Western Pacific "TOF" train moves east over the Feather River at Poe, Calif., five miles west of Pulga.

Market

CARLOADINGS

Loadings of revenue freight in the week ended Oct. 20 totaled 489,377 cars, according to the Association of American Railroads. This was a decrease of 15,058 cars, or 3.0%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Oct. 20 are estimated at 18.5 billion, a decrease of 0.1% below the corresponding week of 1978.

REVENUE FREIGHT CARLOADINGS

Commodity	Oct. 20 week	Oct. 13 week
Grain	31,321	33,823
Farm products	6,197	5,311
Metallic ores	36,585	34,701
Coal	114,243	115,641
Crushed stone, gravel & sand	17,737	18,542
Nonmetallic minerals	15,847	16,120
Grain mill products	17,785	18,066
Food and kindred products	19,648	18,930
Primary forest products	22,020	20,970
Lumber & wood products (except furniture)	11,327	11,807
Pulp, paper & allied products	20,973	21,155
Chemicals & allied products	28,355	27,387
Petroleum products	6,200	6,148
Stone, clay & glass products	19,172	19,590
Coke	6,730	6,621
Metals & products	18,576	17,429
Motor vehicles & equipment	22,326	21,602
Waste & scrap materials	13,858	13,797
Forwarder & shipper assn. traffic	13,216	12,848
All other carloads	46,873	45,324
LCL traffic	388	429
Total cars loaded	**489,377**	**486,241**
Cumulative total,	**1979**	**1978**
42 weeks	**19,388,257**	**18,695,939**
Estimated revenue ton-miles (billions)		
42 weeks	**725.7**	**685.5**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Oct. 13 totaled 36,657 cars (4.0% below the corresponding 1978 week) and 64,918 trailers or containers (down 1.1% from 1978). Cumulative volume for the first 41 weeks of 1979 is 1,472,697 cars (up 2.0% from 1978) and 2,598,980 trailers or containers (up 4.2% from 1978).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended Oct. 7 totaled 5.6 million tons (up 2.6% from 1978). Cars loaded totaled 83,294 (up 2.1% from 1978). Cumulative loadings for 1979 were up to 201.2 million tons (up 10.8% from 1978).

- *Amtrak.*—Directors approved expenditure of up to $31.6 million for the purchase of 30 new diesel-electric locomotives with special generators needed for the system's growing fleet of all-electric passenger cars. Delivery of the new units will bring Amtrak's total fleet of diesel-electrics equipped to supply head-end power to 193. Amtrak says it currently projects a requirement of 235 such diesels needed for conversion of the entire system, including new trains that are expected to be added as state-supported (403b) services.

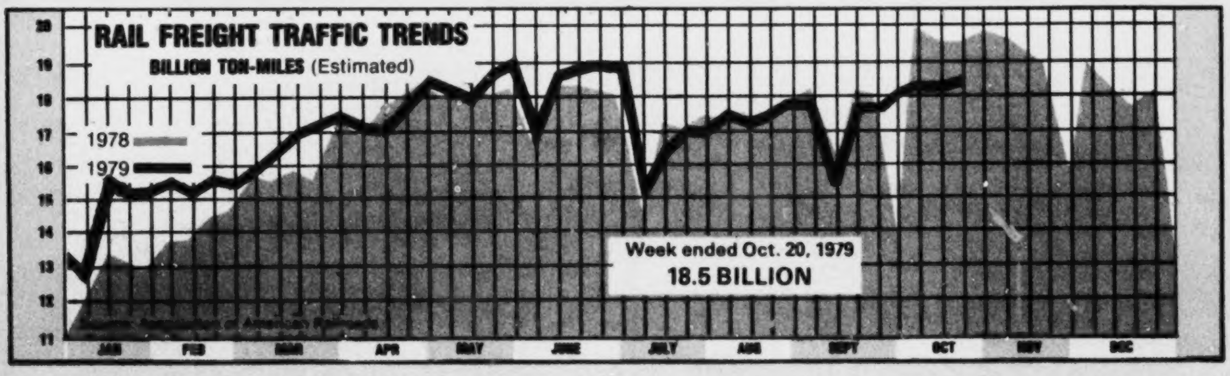
- *Amtrak.*—Will spend $2,942,178 to upgrade and modernize 12 former Chicago & North Western bilevels for push-pull operation in Chicago-Valparaiso and Detroit-Jackson commuter services. The cars will be modified to make them compatible with the all-electric Amfleet cars. Cab controls and head-end equipment will be installed on four cars.

- *Conrail.*—Placed orders for 126 new 3,000-hp diesel-electric locomotives, valued at $87.4 million, for delivery in 1980. EMD will supply 101 units and General Electric 25. By the end of 1979, says Conrail President Stuart M. Reed, the railroad will have acquired a total of 657 new locomotives since it began operations in April 1976, and overhauled, rebuilt, or converted about 3,000 more.

- *Fort Worth & Denver/Colorado & Southern.*—Burlington Northern directors have approved purchase of equipment valued at $7.4 million for the two subsidiaries. FW&D will receive 100 100-ton covered hopper cars, 10 steel cabooses, 10 air-dump cars, and 10 ballast cars; C&S will get 20 100-ton insulated boxcars. Total BN system equipment expenditures for 1980 now add up to $320.7 million.

- *Grand Trunk Western.*—Delivery of 200 XF 50-foot boxcars, built by National Steel Car of Hamilton, Ont., is being completed this month, rounding out the largest rolling stock program in GTW's history. During 1978, the railroad committed $33.6 million for the acquisition of 565 cars and 20 diesel-electric units. Earlier this year, GTW accepted delivery of 74 enclosed bilevel and 40 enclosed trilevel cars with racks installed by Whitehead & Kales; 100 covered hopper cars built by Pullman Standard; and 150 XM general service boxcars built by National Steel Car.

- *Thrall Car.*—Will build 500 100-ton grain covered hopper cars for its leasing subsidiary, Transportation Corporation of America. These cars will join an existing group of jumbo covered hoppers leased by TCA this year to grain companies and farm cooperatives. The 500 cars will be produced at a rate of 40 a week and are scheduled for delivery in third quarter 1980.



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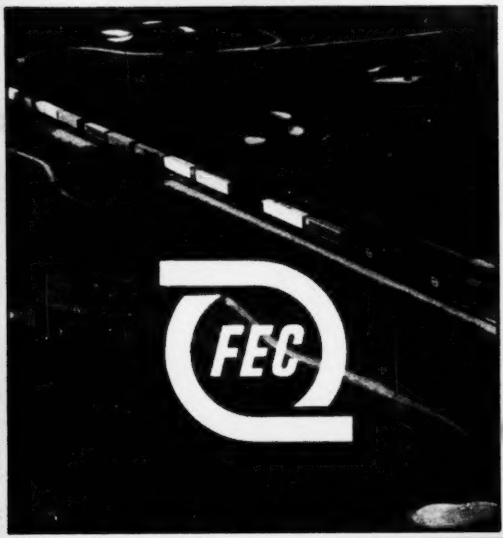
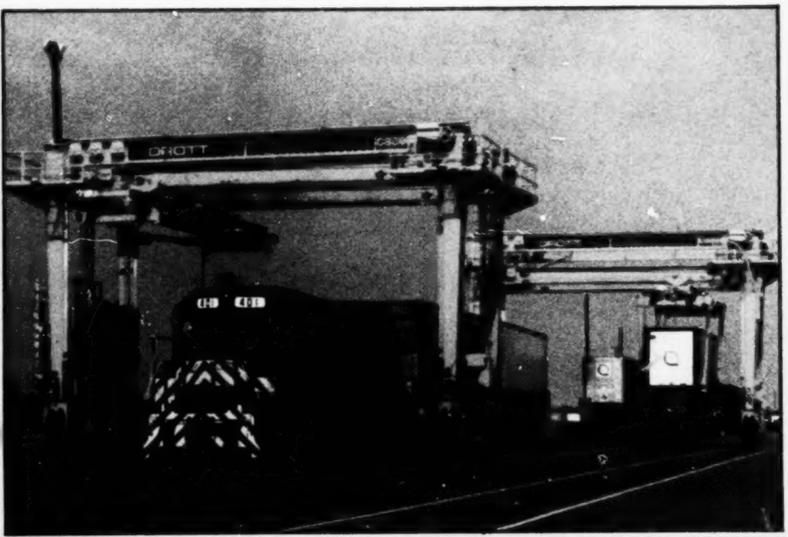
Illinois Central Gulf: Slimming down and shaping up

November 26, 1979

RAILWAY AGE

The great railroads





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Inside

LUTHER S. MILLER

THE GREAT RAILROADS: FEC

Edward Ball got into the railroad business in the early 1930s when he bought the run-down Apalachicola Northern for the Alfred I. duPont Estate. The St. Joseph Telephone & Telegraph Co. was part of the package. "We had to rebuild the railroad and buy new equipment," he said later. "The telephone company had 12 telephones, all used by the railroad. Every time a wet razorback hog leaned against a telephone pole the line went out temporarily."

Rebuilding and modernizing the Apalachicola Northern whetted Ball's appetite for bigger game, and in 1941 he began buying up the defaulted mortgage bonds of the Florida East Coast Railway. At the outset he paid as little as 6½ cents on the dollar, though the price rose as demand grew. Ball finally acquired more than 51% of the bonds in the name of the duPont Estate's St. Joe Paper Co. but was denied control of the railroad for 20 years. The Atlantic Coast Line also wanted control of the FEC, and Ball and ACL President Champion McDowell Davis engaged in 17 years of bitter litigation that cost each around $5 million. One day both were attending a hearing at Palm Beach and entered an elevator together. Davis pushed a button that sent the elevator in the wrong direction.

"Mr. Davis," said Ball, "you run an elevator just like you run a railroad."

ACL's reorganization plan for FEC was turned down, but the bankruptcy court still refused to turn the railroad over to Ball. So he applied to the trustees for the job of general manager of FEC. Taken aback, the trustees warned that they could not pay more than $25,000 a year. Ball signed on for $1 a month.

Ball introduced modern methods on the FEC, including mechanized m/w practices, and by the time the St. Joe Paper Co. finally won control of the railroad with a reorganization plan that became effective Jan. 1, 1961, he had cut employment from 3,300 to 2,200. When the non-ops struck the railroad two years later, Ball said he realized that "I had just knocked a little of the bark off; I hadn't got down to the wood."

What happened in the ensuing 17 years—how Ed Ball finally "got down to the wood" by defying the unions and writing a set of work rules like none the industry has ever seen—is the subject of this issue's cover story (p. 26).

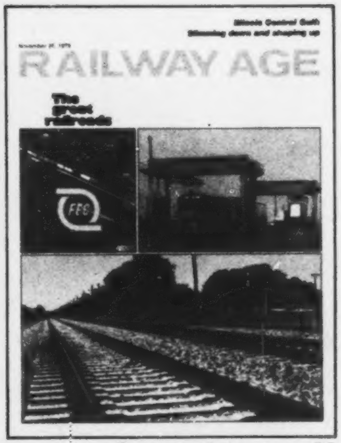
CAN OTHER RAILROADS DO IT?

The extraordinary turnaround that FEC experienced after it shook off the work rules under which most railroads still labor has led many people to wonder why others have not followed FEC's lead. There are, of course, many reasons for this. FEC has a relatively simple operation on an almost straight line between Jacksonville and Miami. It was (and is) tightly held by a rich parent company that could take risks unacceptable to more widely held, less affluent companies. It operates in a part of the South where the labor climate is somewhat milder than in other parts of the land. It does not have many of the problems—e.g. high terminal costs—that vex other carriers. But FEC President W.L. Thornton and Senior Vice President Ray Wyckoff believe other railroads could travel a long way down the same road if they would only face up to the fact (as they see it) that industry's big problem is low labor productivity. Thornton thinks railroads rely too much on Washington for bail-outs. "Today," says Thornton, "there are no consequences for failure."

RAILWAY AGE

November 26, 1979

FEATURES



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26 **The great railroads**

A railroad that specializes in low rates and high levels of service, the FEC today is one of the most modern and prosperous in the world—all because (say its managers) it stood up to the unions and now has, in effect, only one work rule: a fair day's work for a fair day's wages.

34 ICG: Slimming down, shaping up

Illinois Central Gulf officers, and those of parent IC Industries, strongly reject suggestions that the railroad is in deep financial water. Says ICI President William B. Johnson: "The railroad has been solvent, is solvent, and I expect it to stay that way."

43 Are shippers ready for rate freedom?

A.T. Kearney's James S. Heuer, who feels that there are relatively few "captive shippers," recommends that shippers learn more about costing, and re-examine their ways of doing business in order to use deregulation to their own advantage.

46 Railview: The case for the Firewall

Norfolk & Western's President John P. Fishwick restates the case for splitting up Conrail—into a potentially profitable Conrail West and an eastern terminal area that might require continuing federal subsidies.

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COVER: Clockwise, from the left—an FEC piggyback train; loading at Bowden Yard, Jacksonville; a stretch of track near Miami.

Market

CARLOADINGS

Loadings of revenue freight in the week ended Nov. 3 totaled 487,449 cars, according to the Association of American Railroads. This was a decrease of 21,977 cars, or 4.3%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Nov. 3 are estimated at 18.3 billion, a decrease of 1.8% below the corresponding week of 1978.

REVENUE FREIGHT CARLOADINGS

Commodity	Nov. 3 week	Oct. 27 week
Grain	31.856	32.563
Farm products	5.656	6.110
Metallic ores	33.204	32.654
Coal	115.786	117.112
Crushed stone, gravel & sand	17.437	17.671
Nonmetallic minerals	15.532	17.577
Grain mill products	18.619	18.962
Food and kindred products	19.432	20.050
Primary forest products	20.836	21.580
Lumber & wood products (except furniture)	11.228	11.286
Pulp, paper & allied products	22.187	22.018
Chemicals & allied products	28.523	28.105
Petroleum products	5.883	5.971
Stone, clay & glass products	19.062	19.702
Coke	5.695	5.790
Metals & products	19.640	17.577
Motor vehicles & equipment	22.247	21.920
Waste & scrap materials	13.829	13.280
Forwarder & shipper assn. traffic	13.169	13.175
All other carloads	47.236	47.667
LCL traffic	392	427
Total cars loaded	**487.449**	**491.197**
Cumulative total,	**1979**	**1978**
44 weeks	**20.366.994**	**19.718.989**
Estimated revenue ton-miles (billions)		
44 weeks	**762.5**	**722.9**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Oct. 27 totaled 38,173 cars (2.1% below the corresponding 1978 week) and 68,495 trailers or containers (up 2.3% from 1978). Cumulative volume for the first 43 weeks of 1979 is 1,549,337 cars (up 1.9% from 1978) and 2,735,695 trailers or containers (up 4.1% from 1978).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended Oct. 21 totaled 5.95 million tons (up 7.1% from 1978). Cars loaded totaled 87,985 (up 6.1% from 1978). Cumulative loadings for 1979 were up to 212.1 million tons (up 10.5% from 1978).

- *Amtrak.*—A two-year improvement program calls for acquisition of 200 new low-level cars, to be ordered early in 1980 and estimated to cost nearly $200 million; 59 new diesel locomotives—30 in 1980 and 29 in 1981—at a cost of $50.9 million; and 47 AEM7 electric locomotives (of which 30 have already been ordered), valued at $57.2 million. The program also calls for conversion of older, conventional cars to all-electric heating and air conditioning at a cost of $62.5 million. Approximately $43.8 million will be spent on maintenance facilities, and $30.9 million is earmarked for station improvements and on-board service facilities.

- *CP Rail.*—Ordered 200 newsprint boxcars and 250 coal gondolas from National Steel Car at a cost of approximately $23 million, for delivery in late 1980.

- *Seaboard Coast Line Industries.*—Equipment program for 1980 calls for acquisition of 6,300 new freight cars and 115 new diesel-electric units at a total cost of $370 million. This compares with 1979 new-equipment outlays totaling $248 million. The 1980 freight car program includes 2,000 covered hopper cars to be used for hauling phosphate, grain, and other bulk commodities; 2,000 boxcars, principally for hauling paper, auto parts, and general merchandise; and 2,300 open-top hopper cars for hauling coal. SCLI will acquire 54 four-axle road freight locomotives and 61 six-axle, heavy tonnage units.

- *Freight cars and locomotives.*—The following report has been received from the AAR and the ARCI:

DELIVERED

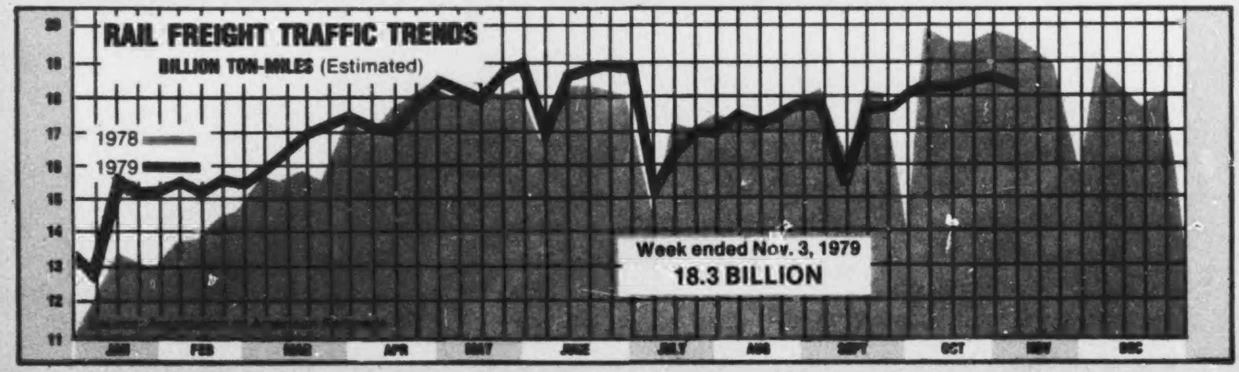
	September		August	Nine Months	
	1979	1978	1979	1979	1978
Built new by carbuilders	6,618	5,533	7,753	61,965	43,681
Built new in RR shops	250	409	298	3,462	3,577
Built new—total	6,868	5,942	8,051	65,427	47,258
Rebuilt	94	3	104	1,516	1,290
TOTAL DELIVERED	**6,962**	**5,945**	**8,155**	**66,943**	**48,548**
Locomotives (new and rebuilt)	269	80	159	1,381	920

ORDERED

	September		August	Nine Months	
	1979	1978	1979	1979	1978
To be built new by carbuilders	10,881	8,911	7,519	95,363	96,080
To be built new in RR shops	850	1,650	1,200	3,663	2,150
To be built new—total	11,731	10,561	8,719	99,026	98,230
To be rebuilt	155	0	191	800	122
TOTAL ORDERED	**11,886**	**10,561**	**8,910**	**99,826**	**98,352**

ON ORDER AND UNDELIVERED

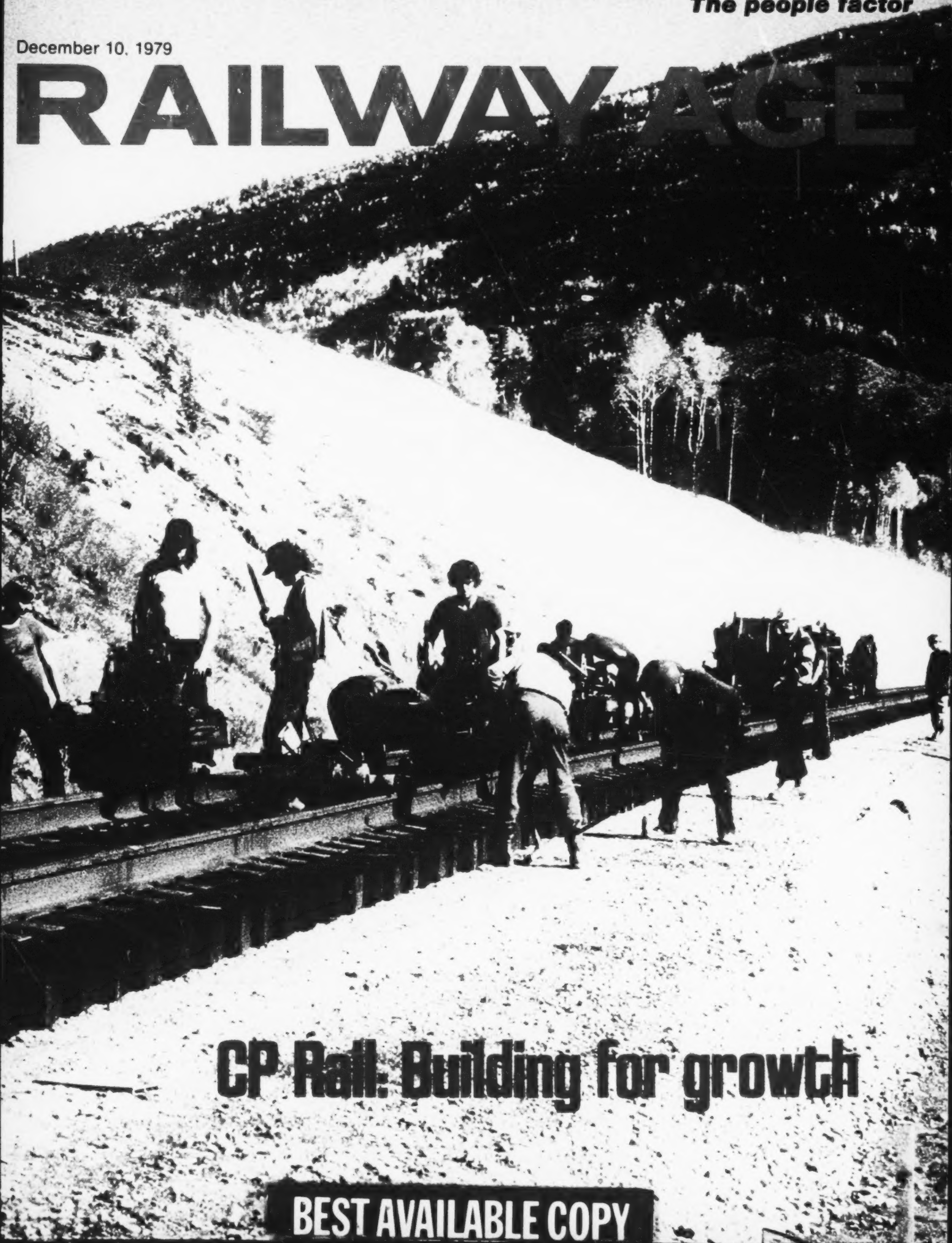
	October 1		Sept. 1	Average Backlog	
	1979	1978	1979	1979	1978
To be built new by carbuilders	121,375	81,423	117,305	113,337	55,508
To be built new in RR shops	6,512	5,777	5,912	5,626	5,394
To be built new—total	127,887	87,200	123,217	118,963	60,902
To be rebuilt	171	108	110	111	550
TOTAL ON ORDER	**128,058**	**87,308**	**123,327**	**119,074**	**61,452**
Locomotives (new and rebuilt)	677	891	723	1,025	726



Railroading for Profit, Part VI:
The people factor

December 10, 1979

RAILWAY AGE



CP Rail: Building for growth

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Inside

LUTHER S. MILLER

MEET THE ADIRONDACK

For 103 years, *Railway Age* has been recording the births and deaths of railroads—in recent years, rather more of the latter than the former. Now, after writing the obituaries of so many roads in the East and describing what appear to be the death agonies of a couple in the Midwest, it is a refreshing change to be able to report the rebirth of a railroad. The 118-mile Adirondack Railway has risen from the grave of the old Mohawk & Malone—just in time to haul 1980 Winter Olympics visitors to Lake Placid.

The Mohawk & Malone was laid down by the Vanderbilt interests nearly 90 years ago. It subsequently became part of the Adirondack Division of the New York Central; it was abandoned by Penn Central in 1972. The State of New York was able to prevent the Penn Central from tearing up the tracks; unfortunately, it had less control over the beaver population, and when the job of rebuilding began work crews were confronted with a succession of gaping holes created by the dynamiting of beaver dams in the railroad's culverts (see photo).

But the rebuilding has now been completed, and the company that contracted with the state to do the construction job has now won a second contract to operate the line—which, its managers emphasize, is no mere tourist railway but will soon be engaged in the business of hauling freight as well as passengers. Associate Editor Tom Kizzia's report starts on p. 40.

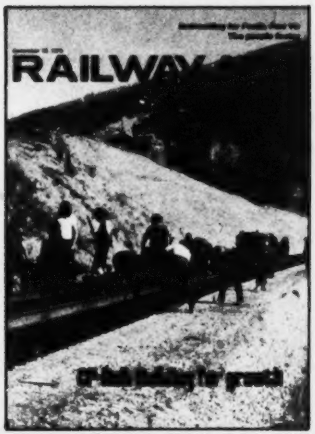
THE PEOPLE FACTOR

Senior Editor Gus Welty's year-long series of articles on "Railroading for Profit" has so far covered track, equipment, operations, marketing, and purchasing; in those stories we have tried to synthesize the best available thinking on what can and must be done to make the entire industry as healthy as certain segments of it, in the West and the South, already are. The concluding installment, in this issue, tackles the most important and the most difficult and elusive subject of all—the people factor. "The people," in Gus Welty's broad context, are not only the railway managers and employees, though they must bear the preeminent responsibility. The people who will determine the future of railroading are also those in government, and their constituents back home. The role of all of these in "making it work" is discussed in the article starting on p. 24.

RAILWAY AGE

December 10, 1979

FEATURES



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16 CP Rail: Building for growth

In its rugged western territory, the railroad is investing a quarter of a billion dollars in double-tracking projects which, writes Associate Editor Frank Malone, will mean the difference between traffic growth and stagnation.

24 Railroading for Profit—The people factor

Senior Editor Gus Welty analyzes the roles that management and labor—as well as government and the public—must play as a survival drama is acted out.

32 Calgary light rail: Ahead of schedule

Construction is going smoothly, and the projected May 1981 opening date appears certain to be met. Siemens-Duwag of West Germany is supplying the cars.

36 Superliners: A touch of class in the West

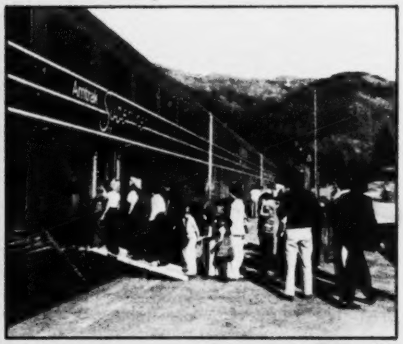
Amtrak's new "Empire Builder" equipment was two years late going into service, but it appears to have been well worth the wait.

40 In New York, a railroad is reborn

People are calling it the "Winter Olympics railroad," but the new 114-mile Adirondack, its managers say, will turn out to be much more than that.

44 "Muni Metro" rolls toward a start-up

One big plus: Most of the problems Boston experienced with its Boeing LRVs had been corrected by the time similar cars were delivered to San Francisco.



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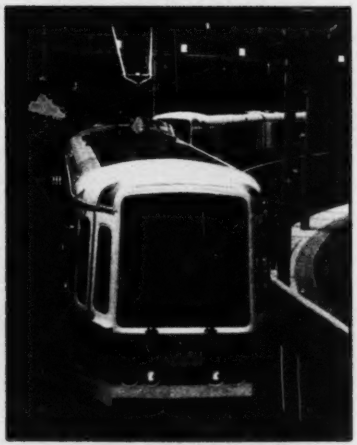

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COVER: CP Rail track gang puts the finishing touches on new second main-line rail in the Tappen-Notch Hill segment of the heavily traveled Calgary-Vancouver corridor.

LAST IN A SERIES

Railroading for Profit

The people factor

By GUS WELTY, Senior Editor

Earlier in this series, industry experts and observers, insiders and outsiders, have talked in frank and freewheeling fashion about railroad problems, railroad needs, and railroad opportunities in many areas.

They have talked about the rail "road" itself, and about the power and the freight-carrying equipment that roll along this steel highway. They have talked about the railroad "product" and about the ways in which it is marketed.

In all of these discussions, the bottom line has been the bottom line—and the contributions to profitability that can and must be made by plant, by equipment, by operations, and by marketing.

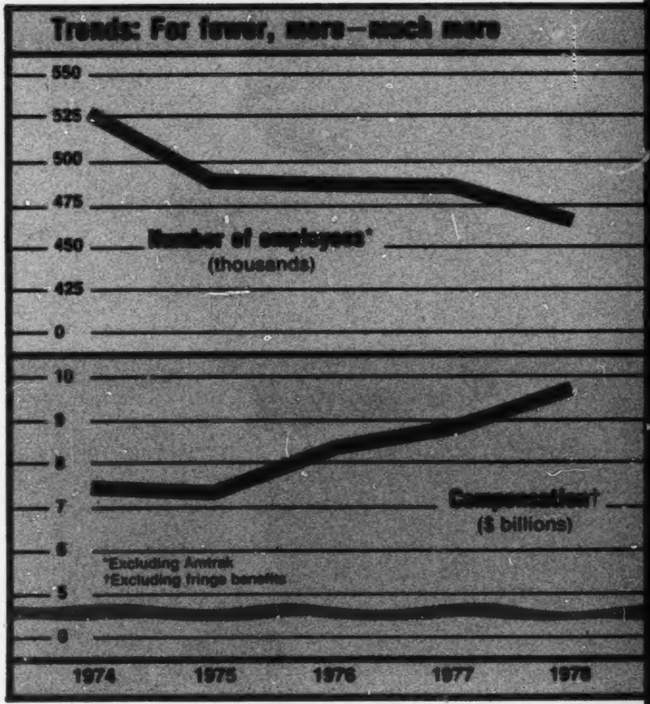
What remains? What remains may be the biggest of all contributors to—and/or detractors from—profitability: people, people defined here as (1) railroad management, (2) rail employees and their organizations, and (3) everybody else, including government and the populace to which it is presumably responsible.

First, management. Not surprisingly, assessments of present day railroad managers vary. At one extreme is the critic who grumbles that the men who run the railroads could never have built them. At the other extreme is the defender who argues that with all the externally imposed handicaps railroads have had to face, they would not have survived this long were management not the equal of any in American industry.

Also not surprisingly, an accurate assessment lies somewhere between the extremes, in a band of the spectrum that can accommodate both the acceptance of history and the ability to break loose from its grip.

Critics of management structure and strategy most often seem to concentrate on two main points, (1) the quasimilitary nature of management organization, and (2) the imbalance of power between those who manufacture the product and those who have to sell it. On both points, the critics have a point—up to a point.

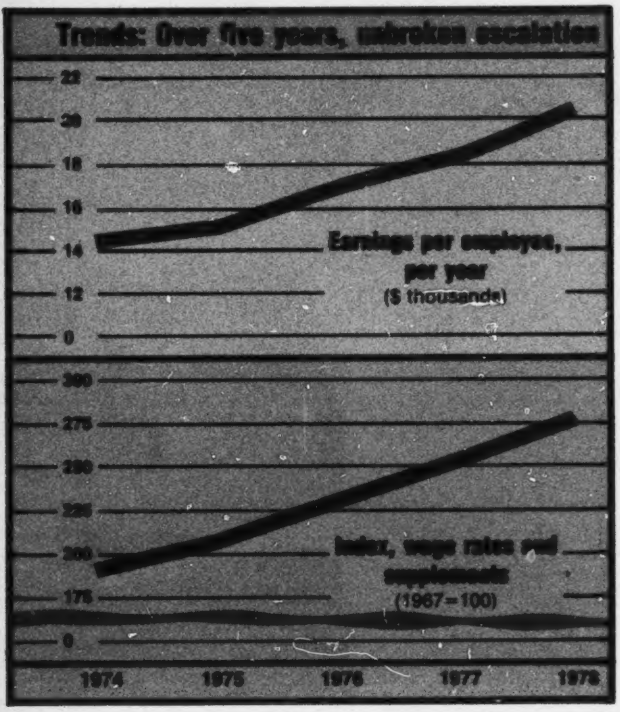
Military organization? Yes, railroads have it. For one thing, military men had a lot to do with the building of the railroads, and it was only natural that they would structure them along the lines of the environment they knew best. For another, however, given the far-flung nature of railroad operations and the need for staff support of line operations, it is not easy to come up with an organization chart that does not look much like one that would be put together for an army.

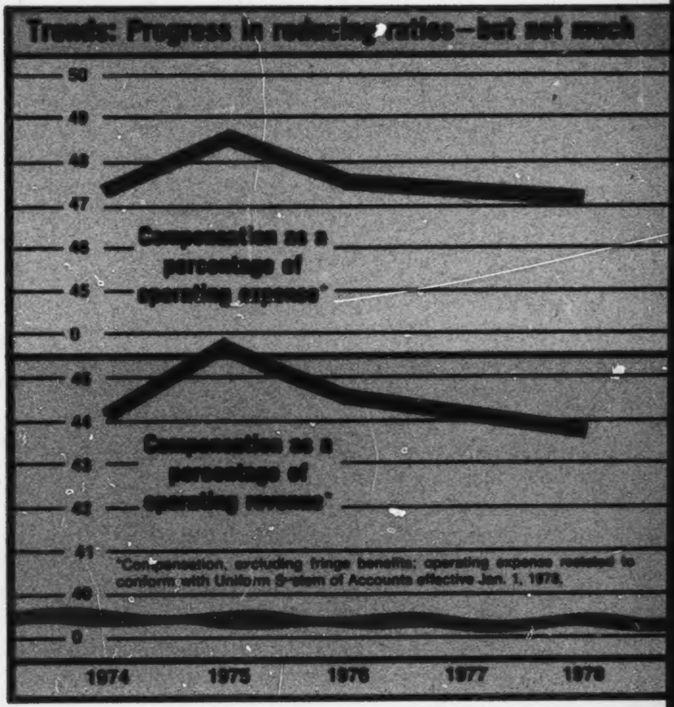

Trends: For fewer, more—much more

To their credit, many roads have tried to tinker with structure, trying to find the right balance between centralization and decentralization, trying to put decision-making power at the right level for whatever decision it is that has to be made. Still, the old story is occasionally told, about the supervisor who, having been struck by a locomotive, had to call headquarters for permission to die. In a more serious vein, debate continues as to the proper level for decision-making with regard to those most basic of railroad operations, classifying cars and dispatching trains.

To their credit, too, more and more railroads have been trying to overcome another handicap associated with a military-type organization, the lack of two-way communication. Traditionally, on a railroad as in an army, "communication" has come from the top down, and only recently has even this one-way communication been broadened to go beyond the directional to the informational. Now, however, railroads seem to be encouraging middle- and lower-level managers not only to develop ideas but also to pass them upward—though even here

"The biggest contributors to—and/or detractors from—profitability are people—management, labor, government, and the public"





*Compensation, excluding fringe benefits; operating expense restated to conform with Uniform System of Accounts effective Jan. 1, 1978.

there may be a gap, and a strange one at that: More and more, front-line supervisors are being told to solicit and respond to suggestions from contract employees—even as those same supervisors continue to wonder if managers above them are giving the same attention to their ideas as the supervisors are supposed to be giving to ideas that come off the trains or out of the shops.

Then, there is that nagging question regarding management power and who has it, the question dealing with production vs sales. Again, blame history for creating the problem: The early railroads were so far superior to anything else that existed then that they didn't really have to "sell," and their superiority continued for so long that when it finally came to an end even those who recognized the end didn't know what to do about it.

Monopoly, or even assured dominance, ended for railroads in the years after World War II—but the end was masked by the prosperity that came during those postwar years. Monopoly, assured dominance, ended (for passenger service) when aircraft manufacturers put to work in peacetime what government had helped them learn in wartime, and it ended (for both freight and passenger service) when government determined that there should be a new "Interstate" system of highways. The first cubic yard of concrete to be poured for the first Interstate was, in effect, the first nail driven into a coffin lid that railroads have been trying to get out from under ever since.

Railroads haven't made it yet, not entirely—and one reason is that railroads, for whatever reason, still seem too much to be trying to sell the available product rather than the one the "consumer," the shipper, wants to buy and needs to buy. Put another way, early-on railroad efforts at "marketing" (with only an exception or two) appeared to be more cosmetic than real. In too many cases, current marketing efforts continue to fall short. Why? Perhaps because top management is still too much production oriented, perhaps because marketing management is not yet able to prove enough winners to offset its occasional loser. Perhaps, too, because some marketable products will cost too much for the price that can be charged—and perhaps government won't let market forces work freely.

Costs? In the railroad business, costs mean many things: cost of equipment, for example, cost of new or rehabilitated plant, cost of labor.

Labor costs in any so-called service industry run high. But railroading is a product-service industry, an industry that is both capital intensive and labor intensive; its labor costs per unit of output can run high—with a Conrail more than offsetting a Florida East Coast and with other roads falling somewhere in between those extremes of high and low.

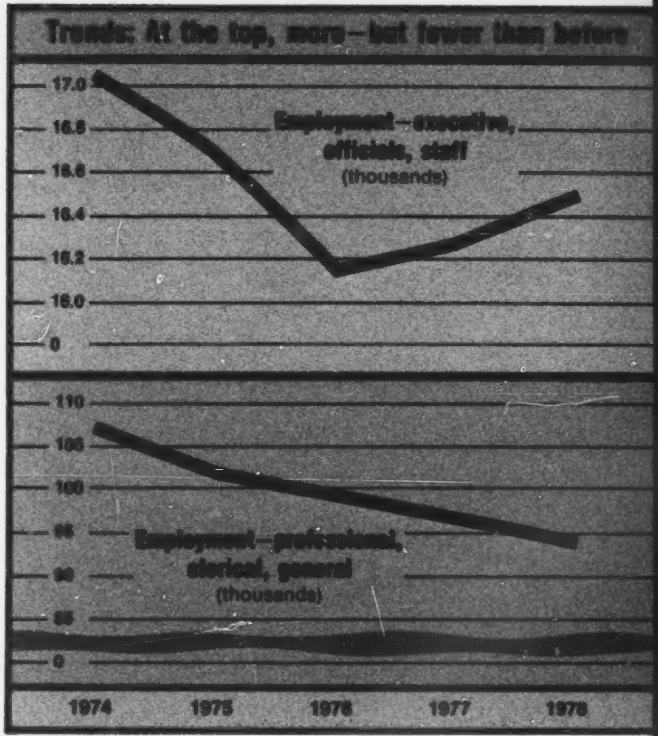
One problem here is that costs interfere too much with the levels, and even the kinds, of service that can be provided. A corollary to that problem is that some roads are more handicapped than others in tailoring service to demand. And a subcorollary is that roads most in need of the ability to tailor service sometimes seem least able to provide it because of union recalcitrance.

By "standard" kinds of productivity measures, rail unions can point with pride; with far fewer employees, railroads are producing far more ton-miles of transportation production than before. There are some in management who would accept this measure—even while they try to point out that most of these improvements in "productivity" are due more to capital infusions than they are to actual increases in labor's productivity.

The heart of the problem, however, has to do with restrictions on operating flexibility, on the ability of a railroad to provide service always on a when-needed, as-needed basis at a reasonable cost. Railroads, hit on one side by law and on another by labor agreements, have problems doing that—and they're going to continue to have these problems unless and until rail labor organizations wake up.

Is rail labor going to awaken? The answer to that one is, as yet, far from clear. On the local level, on a few roads and perhaps more than a few, the rank and file and union leadership seem amenable to change, and change has happened. But local union leaders have their own set of problems. For one, if they agree to change, they have to sell it to the membership on the property—and it had better pay off or, come election day, somebody else is going to become general chairman. For another, they have to sell it to union headquarters—where the big people have the best of worlds, talking about democracy, telling management that they can't agree to anything the local troops won't accept, and then pressuring the local people when they do go along with an idea that headquarters isn't ready or willing to accept. It is not exactly democracy, but it is about all that union hierarchy can accept, blind though it may be.

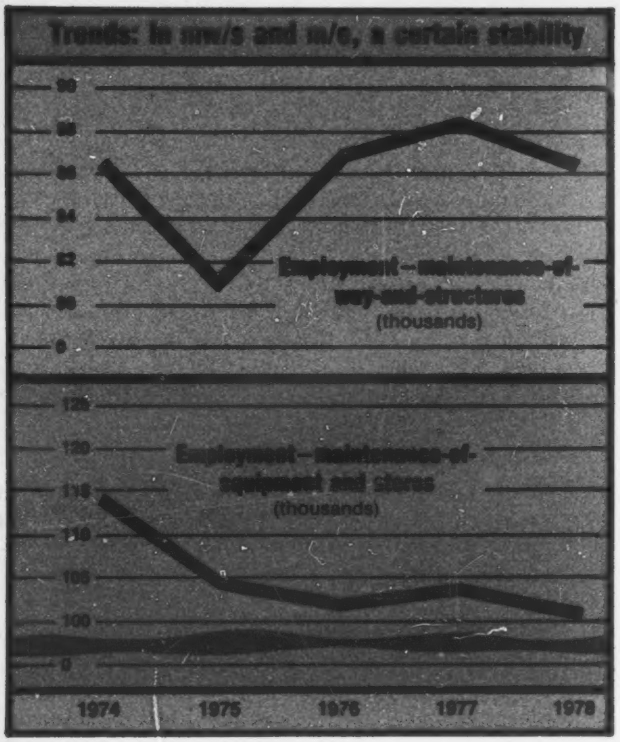
In view of the problems railroads are facing today—in view of declining traffic (as measured by originated tonnage), in view of declining employment (which continues), in view of declines in union membership (which also continue in a number of organizations)—it might be thought that rail unions would be closing ranks with each other and closing ranks with rail management in order to present some sort of united front to the government, to customers, to the world.


Trends: At the top, more—but fewer than before

But it doesn't really happen: Rail labor, fragmented as it is, appears to know little except its own thing, which is self-preservation—even as it drives down the industry upon which it depends for that preservation.

Evidence? For one thing, as soon as rail management served notice in the most recent round of negotiations that it wanted change in work rules, rail labor pulled out of cooperative management-labor-government programs that had done quite a bit to improve service and thus give promise of attracting more business, while these same programs had done absolutely nothing to penalize operating employees. Labor has since come back into such programs, quietly, at the local level, but the other participants have had to virtually beg for labor's participation at higher levels.

More evidence? It was one thing for the Brotherhood of Railway and Airline Clerks to strike Norfolk & Western last year, but it was quite another for the same union (followed, a day later, by the United Transportation Union) to hit Rock Island this year. NW was, by comparison with RI, rich; it had supervisory resources, and it was well on its way to giving BRAC a licking when government stepped in, declared that an emergency existed, and created an emergency board that wound up with recommendations both sides finally accepted. The Rock, on the other hand, was already in bankruptcy, lacked enough supervisory resources to do an NW-type job, and


Trends: In mw/s and m/e, a certain stability

finally got put out of business by the federal government, which declared unilaterally that RI couldn't make it and put a directed-service carrier in business to run RI even as it ignored the Railway Labor Act in order to get the strikers to go back to work. In both cases, government, as not unusual, turned its back on mangement and its front toward labor.

Rail labor, it now appears, will give up little or nothing—it will give up a little if it gets a lot, as witness the Milwaukee and Conrail crew consist agreements—even if the industry itself is at stake. Labor, apparently, believes that since railroads are essential, if private enterprise railroads can't make it, then government will make sure that some sort of railroads do make it—with the kind of protection government has always given to labor, as in the case of railroad mergers.

Rail labor, perhaps, should take another look: Despite its bailout of BRAC in the NW strike and despite its destruction of RI, government will not forever be beholden to rail labor—not when government finally wakes up to the facts that (1) privately operated railroads are, in fact, essential if the freight is going to move, and (2) rail labor makes more noise than it has votes (an observation that is as pragmatic as it is cynical).

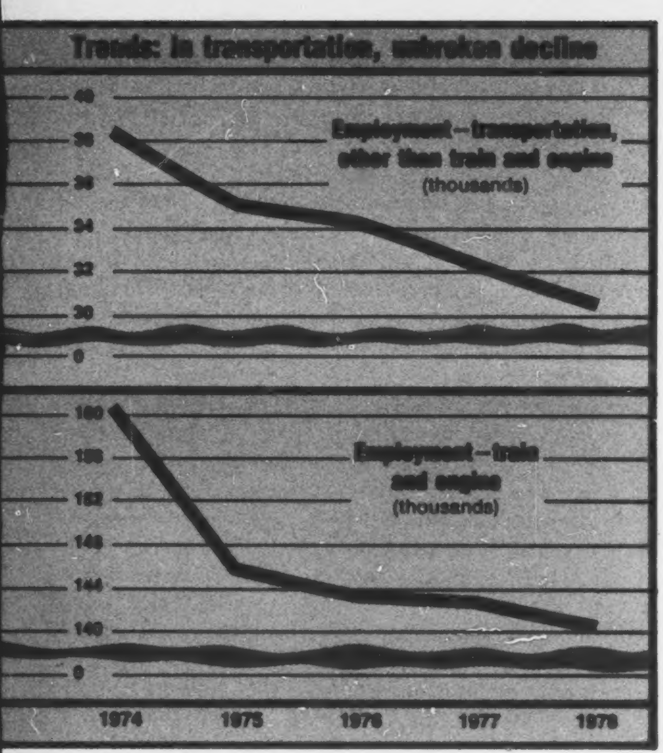
What government intends to do in a broad sense, however, almost defies forecast. If money is the gauge—if federal aid is the gauge—then freight railroading comes in last on government's scale of interest. Earlier this year, the United States Conference of Mayors released an analysis of government financial obligations by transportation mode—and the arithmetic was sobering. For example, in looking at federal obligations just since World War II, the conference came up with these numbers: highways, $102.8 billion; air transportation, $30.6 billion; domestic water transportation, $13.3 billion; ocean shipping, $7.4 billion; and mass transit, $13.3 billion.

What did the analysts add up in federal aid to the rail mode? $5.9 billion, a dead-last number that doesn't even look that good if grants for Amtrak ($2.5 billion) and government financed investment in Conrail ($1.9 billion) are dropped from the total. Rail transportation obligations have, in fact, been increasing—but so have obligations for other modes. In FY 1978, for instance, the conference found rail mode obligations of $1.7 billion, compared with more than $2.8 billion for air transportation and more than $7.2 billion for highway transportation; perhaps ironically, the analysts' number for all aid to rail, pre- and post-World War II, was less than the 1978 outlay alone for highway.

Money, however, may not be everything. Earlier in this decade, the no-longer ignorable losses being piled up by rail passenger operations and the collapse of Penn Central laid a two-by-four alongside government's head, and government demonstrated that it could indeed act, once its attention had been attracted. Thus, Amtrak was created and Conrail was created, and there came to pass the Railroad Revitalization and Regulatory Reform Act of 1976, and both the Administration and the Congress continued to look at deregulation.

In all cases, most observers would probably agree, the intentions were good—but people got in the way. Amtrak was politicized, with trains running for no economic reason. Unions and union members were protected far more than were stockholders when Conrail burst forth, surrounded by the optimistic projections—overly optimistic, as it turned out—as to what CR would be able to accomplish in its first years. The 4R Act? It ranked along with the Railway Labor Act as the most important rail legislation passed in 50 years (and it *was* just 50 years, 1926 for the RLA and '76 for 4R). It gave railroads rate flexibility in a number of areas, while it set up financial aid machinery and it put limits on the time the Interstate Commerce Commission could agonize over merger and consolidation proposals. So what happened? Railroads and the ICC got locked into a dispute over what constituted "market dominance" so far as rate-making was concerned, and while that hassle went on, most of the other "flexibility" provisions went ignored. Financial assistance, in the form of loan guarantees and preference-share financing, was doled out slowly, in dribbles, with some applicant (or supplicant) roads making out quite a bit better than others. And while the ICC moved expeditiously through the hearing stages on several consolidation proposals, toward the end of 1979 there were a few disquieting signals being received as to whether the commission really knew its own mind well enough to make decisions.

Deregulation? That was a topic that both the industry


Trends: In transportation, unbroken decline

and government continued to debate, with railroads reaching some measure of consensus and with government, maybe, realizing that "deregulation" of an industry as complex as the railroad industry would not be so simple as was deregulation of airlines (a legislative move that has yet to prove itself more constructive than destructive).

The thread that runs through all of these considerations of railroads, of rail labor, of government is people.

Management's act is not yet all together; labor's is far from it; and government remains an enigma.

Management has opportunities which can be taken advantage of—better on some roads, certainly, than on others. One of those opportunities has to do with the development of succession, through increased investment in training, identifying, and advancing those who will be tomorrow's managers, and in recruiting on a consistent basis. Another has to do with improving the listening process, which means opening up a true two-way street for communications. Yet a third has to do with development of a basic consensus on public issues, not an easy thing in view of the differences among railroads and their needs, but a thing that seems to be required where the public and government are concerned.

Labor? A half-million individuals, more or less, still work for railroads, and most of those individuals retain a pride in what they do. Those who have gone out and sampled rank and file opinion say that they have found it a lot more encouraging, where change is concerned, than what they find when the opinions of top union leaders are sampled. That makes it appear as though change won't happen unless it's a bottoms-up kind of thing, and if this is true then it's unfortunate, because union "democracy" only goes so far, and there is no evidence that it goes far enough to allow individual employee thinking to overrule headquarters' concerns. As for union leadership, optimistic observers have been burned before in thinking that (1) new leaders, or (2) leaders in a final-term position will show the daring which will allow significant change in old, old positions. What has happened, unfortunately for the industry and probably for the organization, is that the new leader has to prove himself and the old one wants to go out a hero. The industry may suffer, the rank and file may suffer, but that's the way it is, and there are few if any signs that the situation will change; if anything, the militancy of BRAC—and the response that UTU will probably feel obliged to make, as the other "big" union—could lead to the conclusion that labor's positions vis-a-vis the health and even the survival of the industry will become more and not less difficult to deal with.

Interestingly, however, a breakdown of employment figures for the mid-to-late-1970s shows little "reward" for those who have been and continue to be the most militant. Over the past several years, employment in both maintenance-of-way-and-structures and maintenance-of-equipment has more or less been stabilized, as railroads with effective maintenance progams kept them up to snuff and roads which had allowed maintenance to slip began to do something about it. Employment in train-and-engine service and in the professional, clerical, general category, however, shows something different—decline in employment, perhaps not precipitate but steady, for every year from 1974 through 1978. There is, of course, no direct cause-effect relationship here—but, at the same time, these numbers (and many others relating to the overall wellbeing of the industry) ought to provide sufficient cause for labor's leaders, at least some of them, to rethink the course they have charted.

Government may have its own thing to prove, before it's too late. Here the main hope may lie with the Congress, perhaps with the help of the courts, in overcoming a bureaucracy that is entrenched and that, increasingly, regards itself as a law unto itself. But, as with rail management and as with rail employees and their organizations, government—each branch of it—does not speak with one voice. Government, in this context the Congress, will have to recognize at some point soon that the nation's freight railroads are a resource that cannot be done without—and at that point, Congress will have to make it clear to the bureaucracy, notably the ICC and the Federal Railroad Administration, that the national interest demands more than it's getting.

The mandate, for all concerned, is not all that unclear.

The railroad role has been reduced, true, thanks to a lot of circumstances, among them management inertia, labor intransigence, and government ignorance—all of which have translated into improvements in competitors' competitive positions. But is the trend irreversible? No—or for the good of the country, it had better not be. ■

Market

CARLOADINGS

Loadings of revenue freight in the week ended Nov. 17 totaled 464,592 cars, according to the Association of American Railroads. This was a decrease of 30,693 cars, or 6.2%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Nov. 17 are estimated at 17.6 billion, a decrease of 2.7% below the corresponding week of 1978.

REVENUE FREIGHT CARLOADINGS

Commodity	Nov. 17 week	Nov. 10 week
Grain	32,093	33,405
Farm products	6,442	6,478
Metallic ores	30,678	31,494
Coal	107,829	113,862
Crushed stone, gravel & sand	16,734	17,326
Nonmetallic minerals	14,806	15,824
Grain mill products	18,692	19,055
Food and kindred products	18,657	18,869
Primary forest products	21,013	21,380
Lumber & wood products (except furniture)	10,518	10,541
Pulp, paper & allied products	21,478	21,100
Chemicals & allied products	27,768	28,482
Petroleum products	5,708	6,051
Stone, clay & glass products	17,556	17,975
Coke	5,978	6,013
Metals & products	17,179	17,602
Motor vehicles & equipment	19,965	21,761
Waste & scrap materials	13,877	13,959
Forwarder & shipper assn. traffic	12,504	12,482
All other carloads	44,734	45,717
LCL traffic	383	365
Total cars loaded	**464,592**	**479,741**
Cumulative total,	**1979**	**1978**
46 weeks	**21,310,744**	**20,718,045**
Estimated revenue ton-miles (billions)		
46 weeks	**798.2**	**759.4**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Nov. 10 totaled 36,746 cars (2.5% below the corresponding 1978 week) and 63,918 trailers or containers (down 2.3% from 1978). Cumulative volume for the first 45 weeks of 1979 is 1,624,207 cars (up 1.7% from 1978) and 2,867,268 trailers or containers (up 3.9% from 1978).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the ten-day period ended Oct. 31 totaled 7.8 million tons (up 7.1% from 1978). Cars loaded totaled 115,577 (up 5.0% from 1978). Cumulative loadings for 1979 were up to 219.9 million tons (up 10.4% from 1978).

- *British Columbia Railway.*—Ordered 10 diesel-electric locomotives from General Motors Diesel at a cost of approximately $10 million.

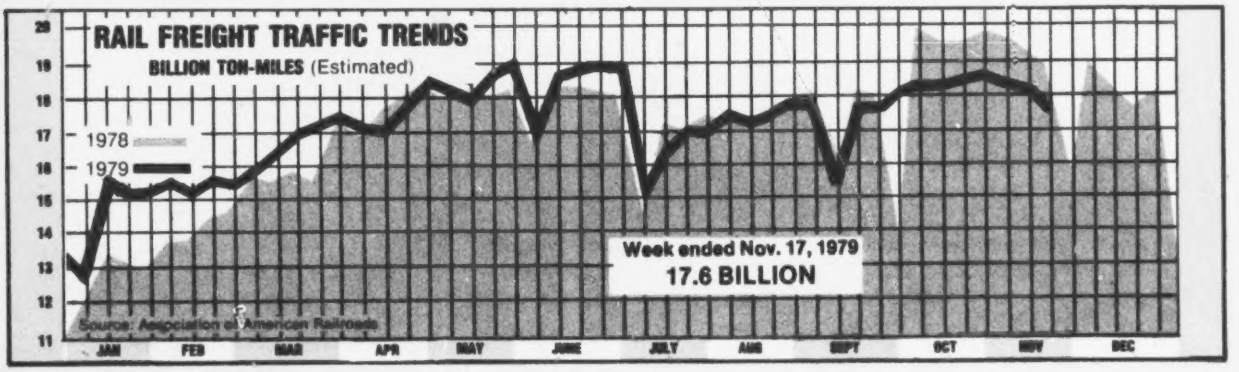
- *CP Rail.*—Ordered 325 89-foot flatcars from Marine Industries at a cost of approximately $18 million, and 400 44-foot 3-inch containers and 150 highway chassis from Highway Trailers of Canada Ltd. at a cost of $6 million. CP Rail will use the equipment to expand its domestic containerization services.

- *Massachusetts Bay Transportation Authority.*—Is seeking a $41,480,000 capital grant from UMTA to help pay for the rebuilding of 93 Budd rail diesel cars. Originally built in 1952-1958, the RDCs would be remanufactured as locomotive-hauled all-electric coaches. They would replace 56 coaches being leased from Toronto until May 1981.

- *New Jersey DOT.*—Has requested bids for the supply of 57 cars (44 midtrain and 13 cab-control) and 10 locomotives for use on the Raritan Valley Line. The purchases are made possible by a grant from UMTA. The locomotive bids are due Jan. 24, 1980; the car bids, Feb. 7, 1980. The bid advertisement includes an option for construction of diesel equipment for use on the nonelectrified portion of the North Jersey Coast Line. The option covers 6 to 9 cab cars, 39 to 49 trailer cars, and 7 locomotives for which funding has been requested from UMTA.

- *Niagara Frontier Transportation Authority.*—NFTA, which will initially require 30 light rail vehicles for the 6.4-mile Buffalo light rail rapid transit line, is seeking proposals from manufacturers. A contract is to be awarded in late summer 1980, with delivery due to begin in late 1982. NFTA is using what it calls the "Two-Step Formal Advertising" procedure, which Kenneth G. Knight, general manager of the Metro Construction Division, explains this way: "The carbuilders will be asked to offer vehicles from their production designs, appropriately modified to meet our essential requirements. The first step of this process will be to solicit technical bids, through a formal request for a technical proposal. This details the required work in terms of performance specifications. Prospective contractors will tell us how they propose to accomplish the work, but will make no reference to cost or pricing." In the second stage, contractors who have submitted acceptable proposals will compete for the contract on the basis of price.

- *Southern Pacific.*—A $900,000, computer based ctc system, which will control two portions of line totaling 150 miles in Texas, is being delivered to SP this month by TRW Controls Corp. It will become operational in January. Hardware includes one operator console with three color CRTs, 16 TRW ALERT-I remote terminal units, one communications interface, and two loggers. Two similar systems previously supplied by TRW control 650 miles of line.

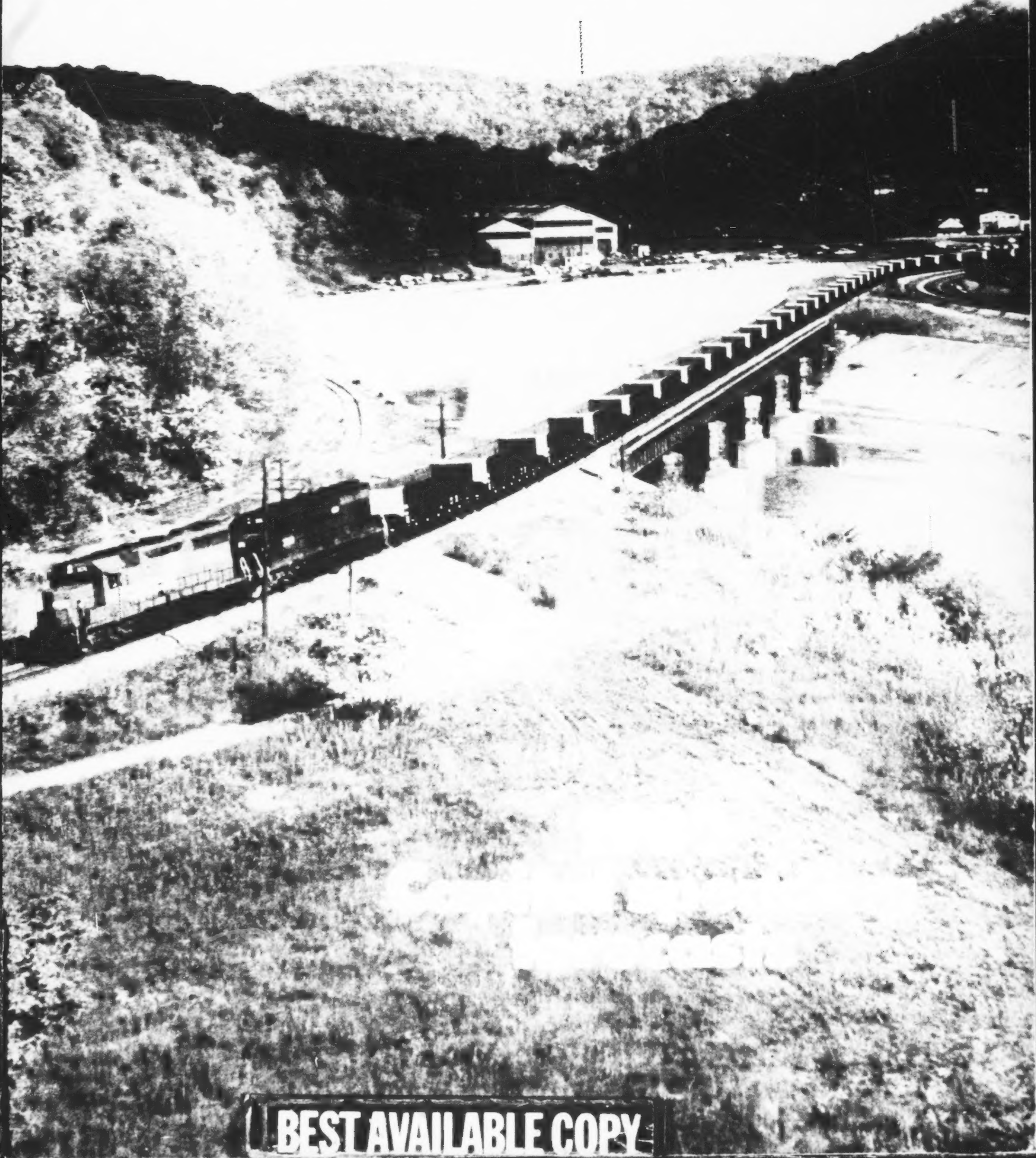


Source: Association of American Railroads

Traffic Poll: How shippers view the new year

December 31, 1979

RAILWAY AGE



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Inside

LUTHER S. MILLER

"RATHER REMARKABLE"

This is the first of three consecutive issues of *Railway Age* that will explore prospects for the new year and add up some of the wins and losses of the old. In this issue, we present our first forecasts of traffic and spending levels for 1980. An updated and more detailed report on these trends, and an analysis of the factors underlying them, will appear in our Annual Review & Outlook issue Jan. 28. Meanwhile, our Jan. 14 issue will carry a report on the passenger business, covering rail transit and commuter operations as well as Amtrak.

At first glance, the two forecast articles in this issue might seem to be in conflict. On the one hand, we are predicting a decline in railroad traffic from year-earlier levels. Our analysis of carloadings (p. 26) demonstrates clearly why industry economists now see a dip of around 5% in first-half traffic. On the other hand, we are predicting a substantial increase in capital outlays in1980, which is, as Senior Editor Gus Welty points out, "rather remarkable" in view of the fact that outlays in 1979 are now conservatively estimated at an astonishing $5.5 billion.

Our estimates of what is likely to happen in 1980 are not based on guesswork—at least not our own. They are based on budget information, covering both capital and maintenance spending, provided by railroads that account for more than 80% of all Class I mileage. They also take into account the fact that much of the money now going into the freight car marketplace comes not from railroads but from outside investors; our survey indicates that the widely publicized reverses now being experienced by two of the biggest of these, Itel and National Railway Utilization Corp., will be compensated for by the expanded buying programs of others.

In past times, recessionary trends have caused major retrenchments in railroad capital budgets. Why not now? For one thing, the railroads are coming out of the busiest traffic year in their history; a slight percentage decline will not do severe violence to the carloadings and ton-mile charts. More importantly, perhaps, they desperately need to modernize their rolling stock fleets and their plant to take advantage of some attractive long-time traffic prospects, and they are scraping the bottom of the cashbox to do so.

A deeper recession than is now envisioned—or other unforeseeable acts of man, God, and the Ayatollah—could change the picture. But right now, the prospects for the rail common carriers and their suppliers are uncommonly bright.

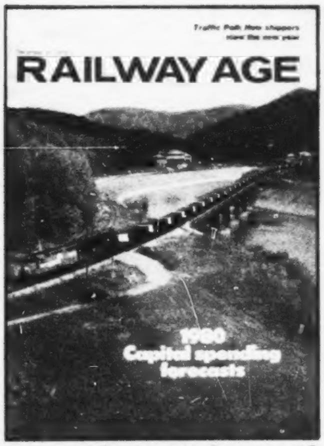
TRUK-TRAIN: AN EXCEPTIONAL CONCEPT

An awful lot of people (and an awful lot they are) seem to know more about running railroads than railroaders—and when we hear of some outsider's schemes for invading the industry, our response is more often a shrug than a published paragraph. But there's always that proverbial exception, and such an exception may be the scheme that James E. Wharton has come up with for loading whole tractor-trailer rigs, along with their drivers, onto a train and speeding them through the night to points close to their receivers. Granted, Wharton isn't a railroader; but he's a motor-carrier lawyer and his Truk-Train concept requires perhaps more knowledge of trucking than it does of railroading. What he has in mind, and the barriers he has already hurdled in his race toward a March 1980 startup date, are described on p. 10.

RAILWAY AGE

December 31, 1979

FEATURES



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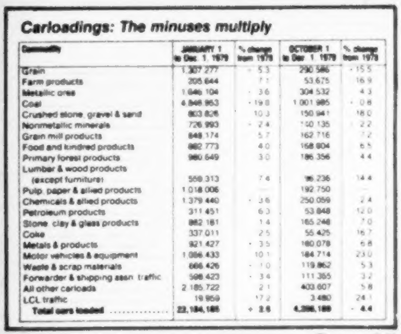

Carloadings: ***The minuses multiply***

Commodity	JANUARY 1 to Dec. 1, 1979	% change from 1978	OCTOBER 1 to Dec. 1, 1979	% change from 1978
Grain	1,307,277	+ 5.3	290,586	- 15.5
Farm products	205,644	7.1	53,675	16.9
Metallic ores	1,646,104	+ 3.6	304,532	4.3
Coal	4,846,953	+ 19.8	1,001,985	+ 0.8
Crushed stone, gravel & sand	803,826	10.3	150,941	18.0
Nonmetallic minerals	726,993	+ 2.4	140,135	2.2
Grain mill products	848,174	5.7	162,716	7.2
Food and kindred products	862,773	4.0	168,804	6.5
Primary forest products	980,649	3.0	186,356	4.4
Lumber & wood products (except furniture)	569,313	7.4	96,236	14.4
Pulp, paper & allied products	1,018,006	—	192,750	—
Chemicals & allied products	1,379,440	+ 3.6	250,059	2.4
Petroleum products	311,451	6.3	53,848	12.0
Stone, clay & glass products	862,161	1.4	165,248	7.0
Coke	337,011	2.5	56,425	16.7
Metals & products	921,427	+ 3.5	160,078	6.8
Motor vehicles & equipment	1,086,433	10.1	184,714	23.0
Waste & scrap materials	666,426	- 1.0	119,862	5.3
Forwarder & shipping assn. traffic	598,423	+ 3.4	111,365	3.2
All other carloads	2,185,722	2.1	403,607	5.8
LCL traffic	19,959	17.2	3,480	24.1
Total cars loaded	**22,184,185**	**+ 2.6**	**4,266,189**	**- 4.4**

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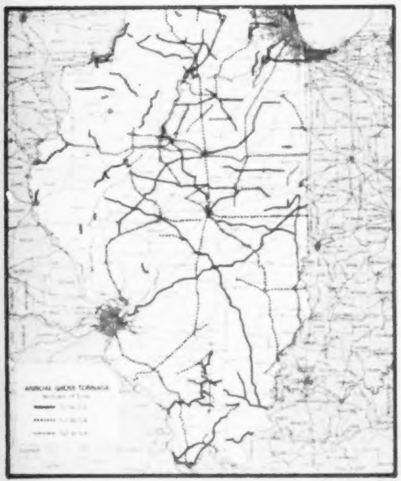

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16 Capital outlays will top $6 billion in 1980

Freight car and locomotive installations will continue at a high rate, maintaining the strong pace set in 1979. Investment in fixed-plant improvements, at a record level in 1979, is headed for a new high in '80.

26 Late '79 traffic slump hasn't bottomed out

A downturn that is showing up in nearly all commodity groups will result in a modest slippage in overall carloadings in first-half 1980, but grain, coal, and chemicals will continue strong.

28 In the Midwest, a bold bid by C&NW

The Chicago & North Western wants to absorb certain grain-gathering lines of the Rock Island and Milwaukee in Iowa and Minnesota, and thus forestall an "invasion" by outside railroads.

31 Illinois: Away from railroading, into track improvement

"We've learned enough so that state policy no longer favors starting any new short lines, nor does it favor operating subsidies," said the head of the state's Bureau of Railroads.

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COVER: Conrail moves a string of Coalporter cars out of Bethlehem's No. 5 plant at Johnstown, Pa. Destination: Grand River Dam Authority in northeastern Oklahoma, which has acquired 484 of the cars.

RAILWAY AGE/News

Rate of return at 2.53% as earnings soar

Due mainly to sharply reduced deficits in the East, the railroad industry as a whole was able to report ordinary (net) income totaling $476.1 million for the first nine months of 1979, compared with a deficit of $39.4 million for the corresponding 1978 period.

Net railway operating income (NROI) for the first three quarters rose from $145.0 million in 1978 to $487.2 million this year. Rate of return for the 12 months ended Sept. 30 was 2.53%, up from 0.94% a year earlier. (Rate of return is based on net railway operating income. Ordinary income differs from NROI in that it is calculated after income from nonrailroad operations is added and interest on debt and other fixed charges is deducted.)

Operating revenues in the first three quarters amounted to nearly $18.8 billion, up from almost $15.9 billion in the '78 period. Operating expenses rose to $18 billion from 1978's $15.6 billion.

Eastern railroads reported a net deficit of $114.7 million in this year's first nine months, down from $485.5 million in the 1978 period. Railroads in the South had ordinary income of $225.3 million this year, up from $92.3 million in 1978; ordinary income of railroads in the West rose from $353.8 million to $365.6 million.

For the third quarter, all railroads had ordinary income of $35.9 million, compared with $29.6 million in 1978.

For the first three quarters of 1979, eight of the 37 reporting Class I railroads operated at a loss—four in the East, three in the West, and one in the South.

CLASS I RAILROADS IN THE UNITED STATES

For the third quarter		1979 (millions)		1978 (millions)
Operating revenues		$ 6,478.3		$ 5,396.9
Operating expenses		6,348.2		5,266.5
Income taxes on ordinary income		54.7		51.1
Provision for deferred taxes		29.6		27.6
Net railway operating income				
United States		51.4		56.5
Eastern District	Def.	106.2	Def.	151.8
Southern District		82.0		60.6
Western District		75.5		147.7
Ordinary Net Income[1]				
United States		35.9		29.6
Eastern District	Def.	89.8	Def.	82.9
Southern District		68.7		9.2
Western District		57.0		103.3
For the first nine months				
Operating revenues		16,761.8		15,872.1
Operating expenses		18,002.5		15,542.4
Income taxes on ordinary income		153.3		115.5
Provision for deferred taxes		134.7		85.6
Net railway operating income				
United States		487.2		145.0
Eastern District	Def.	161.5	Def.	518.3
Southern District		250.5		222.5
Western District		398.3		440.8
Rate of return*				
after provision for deferred taxes		2.53%		0.94%
Ordinary net income				
United States		476.1	Def.	39.4
Eastern District	Def.	114.7	Def.	485.5
Southern District		225.3		92.3
Western District		365.6		353.8

Def.=Deficit *Rate of return for 12 months ended Sept. 30. [1]Income before extraordinary items.

Capital investment

Outlays for 1980 will top $6 billion

By GUS WELTY, Senior Editor

Jan. 1, 1980, finds the railroad industry in far better shape than it was a year earlier in at least one respect: Some problems *can* be effectively attacked through liberal applications of money, and money has been applied to the industry and by the industry in amounts never seen before—private-sector money, money invested to make money. The result is that, as of Jan. 1, 1980, railroad motive power, railroad freight-carrying equipment, and railroad plant are giving the industry a greater-than-ever transportation capability from a physical and technological standpoint.

Final figures on 1979 are expected to show that about 1900 new and rebuilt locomotive units were installed during the year, the most since 1953. Final figures are expected to show that about 90,000 new and rebuilt freight cars were installed, and you have to go back to 1967 to find a higher number for cars. Final figures are expected to show that railroads, for the first time, poured $1 billion for improvements to fixed plant in a single year.

From the viewpoint of the railroad customer and the consumer who benefits from what rail transportation can provide, even better news may be still to come, because a *Railway Age* survey of major roads points to an increase approaching 15% in railroad capital spending in 1980. Expenditures for maintenance, meanwhile, can be expected to keep pace with capital investment, because the same survey finds average increases of 16.3% in maintenance-of-equipment budgets and of better than 12% in maintenance-of-way-and-structures budgets.

In terms of total dollars, a lot of year-end adding up remains to be done on 1979. But using conservative averages for locomotive and freight car purchases, it appears that the total capital investment in railroading in 1979 was well over $5.5 billion; if you use averages that some regard as more realistic, the total comes closer to $6 billion.

What happens in 1980 will be affected, of course, by what happens to the economy, by political factors that usually come into play in an election year, and by the attitudes of the outside investors who have come so strongly into the freight car market in the last several years.

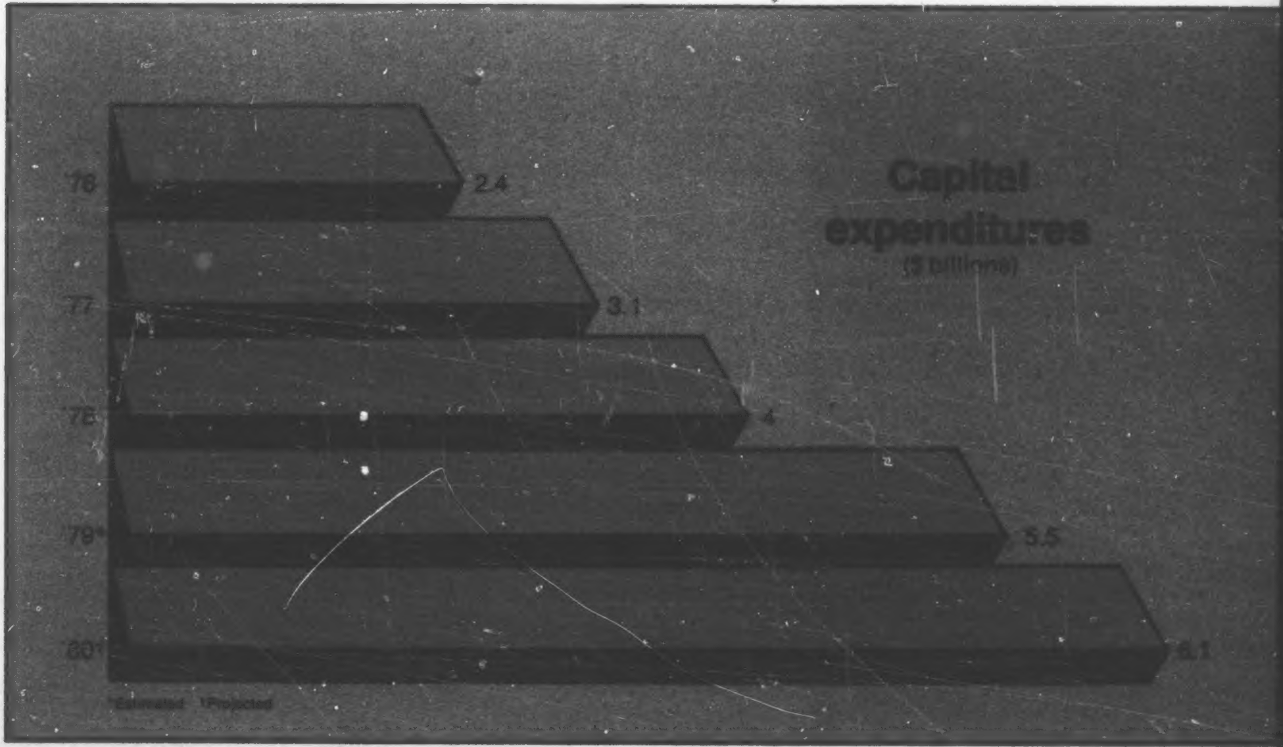
Using responses to the *Railway Age* railroad survey as a base, and assuming no real disenchantment on the part of outsiders investing in equipment, it is possible to forecast total capital expenditures in the railroad market in 1980 at a minimum of $6 billion and a maximum of more than $6.4 billion, before allowing for the inflation that will still be a factor in the new year.

- **A changing car mix.** The makeup of the market could well change, however, so far as freight cars are concerned. Through the first 10 months of 1979, these were the numbers on the freight car scene:

—Orders added up to 104,240 cars, deliveries to 72,982. The backlog, cars on order and undelivered, totaled 123,727, including 117,422 in orders placed with commercial carbuilders.

—Private buyers, including Trailer Train and Railbox, accounted for 65% of the 1979 orders, 64% of the deliveries, and 69% of the carbuilder backlog.

—Despite a strong feeling that the railroads were being flooded with more boxcars than shippers could use, order levels remained high. Through 10 months, more than 32,000 boxcars had been ordered;



deliveries amounted to a few more than 26,000 units. These were the numbers of other major car types: flatcars, 10,400 ordered, 5,600 delivered; gondolas, 9,000 ordered, 4,500 delivered; open-top hoppers, 10,800 ordered, 10,100 delivered; covered hoppers, 24,100 ordered, 15,600 delivered; and tank cars, 12,200 ordered, 7,600 delivered.

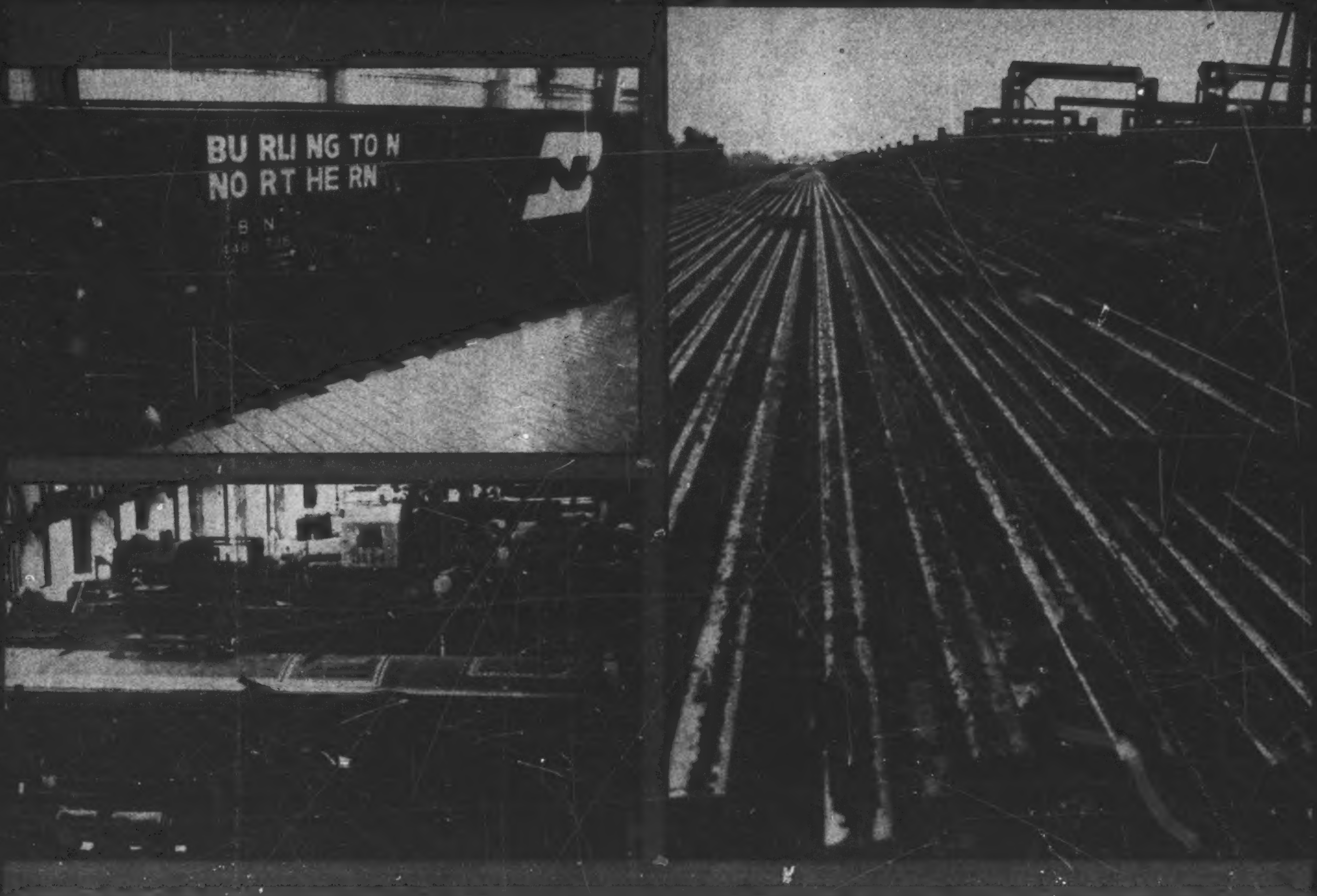
—Across the board, carbuilders were booked far into the future, some with Nov. 1 backlogs amounting to something approaching two years' production capability (as measured by delivery levels through 10 months). On deliveries, Pullman Standard was far and way the 10-month leader, with close to 18,000 cars placed in service. ACF delivered about half that number, with Bethlehem Steel, FMC, and Evans filling out the top five. On 1979 orders through 10 months, however, ACF edged out Pullman Standard (both of them over 19,000), with FMC, Bethlehem, and Greenville Steel Car coming next. On backlog, from first to fifth, it was ACF, PS, FMC, Bethlehem, and Thrall Car.

For 1980, the locomotive market should continue at about the pace of 1979, simply because railroads need the power. EMD, for example, has been producing at a rate of about 5½ units per working day, and there are no signs that any cutback is coming.

For 1980, the car market also figures to continue strong, though there are problems—problems involved with the outsiders and with what might be termed over-anticipation. By this time, it is certainly no secret that Itel (which had been putting thousands upon thousands of boxcars into service under short-line markings in order to benefit from per diem and incentive per diem income) and National Railway Utilization Corp. (with a short-line boxcar fleet that took advantage of rental income but also emphasized loaded-car utilization) ran into serious trouble, resulting in order cutbacks by both. Both companies shook up management, and both revised car acquisition plans downward—but the changes resulted in hardly a flutter in the contract carbuilder market: At least two other "outside" buyers were announcing $100-million-plus car programs for 1980; the assembly line space vacated by Itel was quickly picked up by other purchasers; and one builder, after checking with other private buyers whose orders it suspected might be soft, found that the orders were, in fact, firm.

A second potential problem could concern the backlog for coal-carrying equip-

Locomotives: A 26-year high, no signs of cutback



ment. Deliveries of open-top hopper cars in 1979 have been about equal to orders—making open tops the only car type where this situation has existed—and a fair amount of unit coal train equipment is currently in storage, in part because, apparently, car deliveries have come more on schedule than mine openings and utility plant start-ups.

On the other hand, industry observers are predicting that—1980 recession or not—rail grain and chemical traffic will lead the way, and so the market for covered hopper cars should continue at a high level. Coal traffic, in the meantime, does look relatively good for 1980 (though not nearly so good as it should be, some say), and so it would also appear that coal hopper and gondola orders may continue strong—with, it is hoped, stored equipment finally getting back into (or first going into) service.

● **Railroad spending.** Now, what are railroads saying about 1980 budgets, both capital and maintenance? The *Railway Age* survey represents a cross-section, including the big, medium-sized, and the small, and this is what it shows:

—Top numbers on railroad capital spending are those of Burlington Northern, with 1980 programs for BN and its rail subsidiaries pegged at $526.9 million, down by about $700,000 from estimated '79 levels. Railroad expenditures for equipment will be up by $20.4 million, however, and there will be a significant increase in budgeted equipment maintenance expense, from $587 million this year to $695 million in 1980. BN's equipment acquisition program for '80: 280 locomotive units and 2,461 freight cars, plus 150 autoracks and 500 piggyback trailers.

—Family Lines checks in with a capital program adding up to $464 million, up from $315 million in 1979. Equipment spending will go from $245 million to $377 million, with 115 new and 58 rebuilt locomotives on the list along with 5,000 new and 2,300 rebuilt freight cars. Fixed-plant expenditures will climb from $70 million to $87 million, for such projects as installation of microwave between Atlanta and Waycross, Ga., construction of a freight car running-repair facility at Waycross and a car repair and locomotive-servicing facility at Winston, Fla., yard expansion at Ravenna, Ky., the double-tracking of certain sections of line in eastern Kentucky, and acquisition of shop machinery for South Louisville shops. For Family Lines, 1980 will bring acquisition of fewer locomotives than in '79, but it will also bring a sharp increase in freight car acquisitions (from 2,100 to 5,000) and a jump in rebuilding of both power and cars.

—In '79, Southern Pacific almost doubled its previous high for railroad capital spending, with expenditures that topped $450 million. Of that total, about $350 million went for new motive power and freight equipment, with the rest invested in modification and rebuilding of equipment and in improvements to track, roadbed, signals, and other facilities. In 1980, SP is figuring on spending levels that could equal those of '79, depending upon the state of the economy, and probably budgeted in similar fashion between equipment and plant. At this point, SP does see an increase in the number of locomotives to be acquired and an increase in caboose purchases, but a cutback in freight car acquisitions. Fixed-plant improvements will include installation of additional ctc, along with improvements in intermodal and automobile-handling facilities.

—Santa Fe is going to be up in spending for both equipment and plant, with the 1980 budget calling for total expenditures of $371 million ($277 million for equipment and $94 million for plant), compared with an estimated $303 million in '79 ($229 million for equipment and $74 million for plant). Locomotive acquisitions will be about the same, with 140 units scheduled for '80 delivery, but freight car acquisitions will be up substantially, from 1,250 to 2,075. Included in 1980 installations will be four more trainsets of Ten-Pack piggyback equipment, following the suc-

The 1980 shopping list: Equipment, $5 billion; fixed plant, $1 billion plus

cessful revenue service use of the fuel-saving, skeleton-type equipment. In addition, Santa Fe will continue its rebuilding programs (85 locomotives and 638 cars), acquire 1,290 trailers and lease 1,500 others, and install close to 450 miles of new and reconditioned welded rail.

—Union Pacific capital spending will go up from $310 million in '79 to $367 million in 1980, with expenditures for equipment climbing from $220 million to $284 million and outlays for fixed plant dropping slightly from $90 million to $83 million. In '80, UP will be getting fewer locomotives (150, down from 180 in 1979) but freight car installations will go up from 2,126 to 3,580. Improvements to fixed plant will include construction of about seven miles of third main track near Lookout, Wy., construction of approximately 11 miles of additional sidings and second main track on the Kansas Division, construction of a new running track and a new TOFC facility near Salt Lake City, and improvements to a car repair facility at Omaha; these projects alone account for expenditures of about $16.8 million. On the maintenance side, budgets for '80 are up substantially, from $366 million to $439 million in 1980 for m/e and from $278 million to $330 million for m/w&s.

—Missouri Pacific, now, shows a down-figure on capital spending for the new year, but that could be misleading, because MoPac has often come along with increases during a year. In any event, what MP plans now is an expenditure of $247 million (down from $255,173,000 in 1979), with a drop in equipment spending from about $214 million to $167 million and an increase in fixed-plant expenditures from a bit more than $41 million to $80 million. MP will be acquiring a few more locomotives in '80 (140 vs 130), but its car acquisitions will be down (from 3,200 to 2,077). Property improvements will be impressive, including installation of almost 205 miles of new 136-pound welded rail, installation of close to 240 miles of 112- and 115-pound relay welded rail, improvement of intermodal and auto-handling facilities and a number of bridge improvements and siding extensions, as well as an eight-mile installation of second-main track in the Houston area.

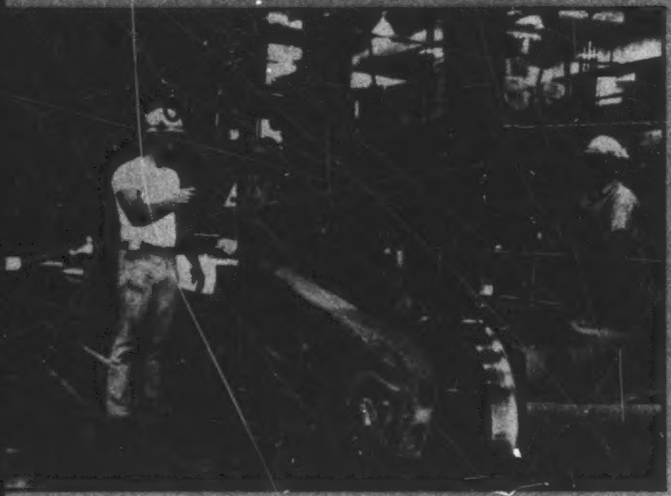
—Southern's totals are a bit harder to figure, but by the time all the numbers are added up, Southern will need no apologies. Its 1979 capital spending was pegged at $285 million, a record high, and equipment expenditures alone for 1980 will run to about $214 million, for 76 locomotives, 3,225 freight cars, and 1,200 trailers.

—In the totals, Chicago & North Western and Illinois Central Gulf also come in at levels above $200 million. Without giving details, ICG has said that 1980 capital spending will run about 20% above 1979's $225 million. North Western is looking at an increase in expenditures from $105.2 million in '79 to $200.9 million in 1980. For C&NW, this translates into an increase in equipment spending from $49,352,000 to $106,183,000, with locomotive acquisitions going up from 65 to 80 units, freight cars from 740 to 1,550 units; it also means a boost in fixed-property spending from less than $56 million to more than $94 million, with emphasis on the continuing rehabilitation and improvement of the Chicago-Fremont, Neb., line and improvements at Proviso Yard west of Chicago. Maintenance? North Western is also going up there, with spending for both m/e and m/w&s budgeted to climb from around $100 million in '79 to $115 million plus.

—Chessie System plans a small boost in capital budgets, from $170 million in '79 to $180 million, but a bigger jump in maintenance spending, from $285 million to $340 million on m/e and from$270 million to $320 million in m/w&s. Among Chessie's major projects: continuation of work on Queensgate Yard at Cincinnati, now estimated to cost $60 million.

—Norfolk & Western, coming off the strike by the Brotherhood of Railway and Airline Clerks and all its related problems in 1978, put close to $115.6 million into capital improvements in'79 and is budget-

Maintenance budgets: The trend is also up



ing for $162.9 million in 1980. Locomotive acquisitions will be down, from 45 units to 25, but freight car installations will be up, from a couple hundred to 1,644, and included in $60.5 million in fixed-plant improvements will be better than $9.8 million for rail/ballast programs, upwards of $4.4 million for construction of locomotive inspection and repair facilities at Bellevue, Ohio, and about $3.5 million for purchase of roadway machinery. On maintenance budgets, NW figures to go up from $172.7 million to $188.7 million on m/e and from $162.1 million to $185.5 million on m/w&s.

—Frisco, which by this time next year could be part of Burlington Northern, isn't about to let its proud property decline. Fixed-plant spending will stay at about 1979 levels, $16 million, but equipment expenditures are budgeted to climb from $27.2 million to $37 million, with Frisco planning to acquire fewer locomotives but more freight cars. Maintenance will also run higher, going from $81 million to $89 million on equipment and from $69 million to $75 million on fixed plant.

—Among smaller roads, there are ups and downs. Rio Grande, for example, doesn't have a car program for 1980 (it acquired 1,110 cars in '79), but it's going to get 16 diesel-electric units, up from zero last year, and its maintenance programs on both equipment and plant are going to show increases. Neighboring Western Pacific is going to be down somewhat on plant spending but up on equipment, with a total budget on the capital side of $22.7 million as compared with $19.4 in 1979. Katy's total capital budget is way down, but it's going to be getting a couple more locomotives than it did in '79, and its property-improvement figure will be up sharply (from $5.9 million to more than $9.3 million). There is perhaps a misleading factor in its reduction in car acquisitions, because Katy is in the process of entering into several split-lease arrangements that will make better use of equipment and still provide adequate service to customers whose needs are seasonal.

—Two major Class I railroads are missing from that long list, Conrail and Amtrak. Each has a hook to the federal government, and about the best that can be said at this point is that Conrail has 126 locomotives on order for 1980 delivery, will start building 2,000 gondolas in CR shops next spring, and would like to get more cars if financing can be arranged. Amtrak shows capital budget authorizations of $203 million for FY 1980, $244 million for FY 1981, and $254 million for FY 1982, with most of the money destined to go for new equipment; there is also the Northeast Corridor improvement project, with an estimated $400 million to be spent in 1980.

● **A recession-proof market?** What all of this adds up to is the existence of a rather remarkable marketplace—one that should be encouraging to all concerned, at least through 1980 and into 1981.

There will be a few soft spots. Automobile traffic has been off sharply, with forecasts now indicating that it may be mid-1980 before the auto industry bounces back. TOFC/COFC would be hurt (though probably to a lesser extent than in past situations) in the event of a deep recession. Coal development is not coming along as rapidly as had been expected. And all of these factors could affect both the size and the timing of some new equipment programs. So, too, could future developments in such areas as per diem, incentive per diem, and even basic car service policies and practices.

In addition, there's a feeling that a mild adjustment downward in carbuilding rates might not be all bad, especially if it would buy time for domestic producers of scarce components to complete planned plant expansions and thus ease the pressure on builders to go overseas and pay more.

Overall, however, the market can be expected to remain strong. Despite general agreement that at least the first half of 1980 will be no bargain, with about 4% drop in carloadings being predicted, railroads are in fact committed to increases in both capital and maintenance budgets for the year, increases over and above what could be accounted for by inflation. The industry's self-improvement is spreading its waves throughout the supply industry, to the point where, with many builders, if you ordered a freight car today, you would get delivery in '81, early '81 if you are especially lucky; or to look at it another way, consider that at least 10 major carbuilders, all working at or near capacity over the first 10 months of 1979, went into November with more cars backlogged than they had been able to deliver this year.

So don't ignore the soft spots coming up in '80—but don't overestimate them either, because railroad improvement programs today are perhaps more solidly founded than they have ever been. ■

REVENUES AND EXPENSES OF RAILWAYS

Third quarter figures of calendar year 1979

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

		Operating revenues				Operating expenses														
						Maint. of way & structures			Maint. of equipment					Operating ratio		Income after fixed charges		Net Ry. operating	Net income	
		Freight	Other	Total 1979	Total 1978	Total 1979	Total 1978	Deprec.	Total 1979	Total 1978	Deprec.	Total 1979	Total 1978	1979	1978	1979	1978	income	1979	1978
Amtrak	3 mos	–	119.832	119.832	67.768	18.282	19.925	373	79.910	56.694	19.675	270.942	220.747	230.0	250.0	(25.061)	(28.873)	(449.886)	(25.061)	(28.873)
	9 mos	–	300.497	300.497	240.395	51.540	44.289	1.295	209.574	176.116	37.946	750.377	649.112	250.0	270.0	(39.977)	(42.138)	–	(39.977)	(42.138)
Atchison, Topeka & Santa Fe	3 mos	472.792	11.143	483.935	382.319	83.833	63.930	2.838	107.611	81.101	18.348	450.777	337.768	93.1	88.3	29.780	36.805	27.363	23.688	28.577
	9 mos	1.317.388	32.677	1.350.065	1.116.299	232.800	203.290	8.366	293.813	242.088	53.223	1.234.387	1.025.201	91.4	91.8	107.467	74.731	–	84.947	57.721
Baltimore & Ohio	3 mos	214.907	11.572	226.479	236.363	49.610	40.086	1.733	50.274	57.667	6.986	219.098	204.246	96.7	86.4	8.156	29.053	37.880	9.880	27.414
	9 mos	645.131	33.783	678.915	601.606	122.380	104.226	5.216	160.495	157.739	20.689	638.307	566.956	94.0	94.2	36.641	29.049	–	33.545	27.859
Bessemer & Lake Erie	3 mos	33.884	3.766	37.650	29.942	4.193	2.985	382	5.746	4.878	777	22.556	17.005	59.9	56.8	15.700	12.796	7.741	8.349	7.023
	9 mos	80.994	8.718	89.712	63.206	9.916	9.670	1.100	16.120	10.430	2.356	59.451	42.630	66.3	67.4	31.351	20.625		16.471	12.759
Boston & Maine	3 mos	25.796	1.298	27.094	22.582	8.118	4.367	276	8.260	5.941	621	31.478	22.758	116.2	100.8	(3.519)	(27)	4.324	(3.675)	(232)
	9 mos	76.998	3.643	80.641	67.038	21.377	13.049	831	23.119	18.587	1.871	87.691	68.521	108.7	102.2	(5.398)	(1.455)	–	22.422	(2.070)
Burlington Northern	3 mos	622.825	20.291	643.117	504.076	163.393	122.126	4.986	147.415	110.186	16.246	646.610	488.292	100.5	96.9	10.833	20.884	2.107	16.424	25.336
	9 mos	1.702.226	56.099	1.758.325	1.448.569	370.836	293.949	15.045	407.881	328.033	48.068	1.687.717	1.379.059	96.0	95.2	110.281	86.338	–	125.443	93.740
Chesapeake & Ohio	3 mos	190.888	12.798	203.686	193.796	38.359	34.929	1.333	44.083	41.343	5.800	189.502	174.201	93.0	89.9	28.584	45.238	27.170	21.556	33.585
	9 mos	553.401	32.969	586.370	480.770	102.777	90.813	3.991	134.920	116.431	17.281	549.024	486.434	93.6	101.2	77.605	11.734	–	67.255	18.149
Chicago & North Western	3 mos	176.698	20.167	196.865	168.075	42.001	39.440	759	51.728	42.989	4.535	196.103	167.818	99.6	99.8	(5.103)	(5.616)	717	(5.140)	(5.653)
	9 mos	480.688	56.848	537.536	478.926	115.599	96.946	2.150	157.100	129.166	13.482	565.080	481.441	105.1	100.5	(43.107)	(16.413)	–	(43.217)	(15.921)
Chicago, Milwaukee, St. Paul & Pac	3 mos	104.976	13.759	118.735	115.079	31.177	26.707	1.091	39.950	40.790	4.490	147.160	137.361	123.9	119.4	(24.343)	(18.527)	(28.389)	(24.343)	(18.527)
	9 mos	290.869	38.292	329.161	330.026	75.173	63.628	3.255	130.925	116.911	13.524	424.657	391.496	129.0	118.6	(83.396)	(52.527)	(95.446)	(83.396)	(52.527)
Clinchfield	3 mos	16.190	385	16.575	15.932	3.018	3.872	109	2.646	3.374	1.033	12.535	13.317	75.6	83.6	(9)	32	4.572	–	–
	9 mos	45.851	1.075	46.926	44.207	10.111	10.147	312	9.401	10.069	2.860	39.736	38.109	84.7	86.2	161	145	–	–	–
Colorado & Southern	3 mos	22.044	499	22.543	17.263	9.648	4.474	56	5.288	6.481	663	28.758	19.088	128.0	111.0	(2.380)	(2.428)	(5.133)	(1.298)	(2.373)
	9 mos	62.130	1.400	63.530	46.239	18.525	12.487	163	15.109	14.925	1.991	68.066	48.764	107.0	105.0	6.526	278		8.789	352
Conrail	3 mos	778.589	158.532	937.120	853.325	241.697	228.752	2.401	280.091	265.480	18.498	1.100.247	1.008.681	117.4	118.2	(164.187)	(156.005)	(379.280)	(163.830)	(155.597)
	9 mos	2.339.679	450.878	2.790.557	2.417.996	639.426	609.163	7.503	839.878	817.578	52.454	3.171.501	2.952.823	113.7	122.1	(375.699)	(540.820)		(374.462)	(539.552)
Delaware & Hudson	3 mos	25.096	1.026	26.122	19.895	4.533	3.398	153	8.735	6.668	404	28.663	22.490	109.7	113.0	(3.310)	(3.428)	(2.541)	(3.310)	(3.428)
	9 mos	71.556	2.203	73.759	62.513	12.811	9.849	458	24.430	21.242	1.217	79.484	68.869	107.8	110.2	(7.524)	(8.718)	–	(7.524)	(8.718)
Denver & Rio Grande Western	3 mos	63.236	2.019	65.255	58.435	12.400	11.469	590	9.881	9.765	2.675	56.836	48.695	87.1	83.3	8.107	9.183	6.388	6.058	6.309
	9 mos	184.855	4.897	189.753	160.203	35.663	30.194	1.750	29.850	25.843	7.512	160.135	133.606	84.4	83.4	29.834	26.218	19.929	19.993	16.543
Detroit, Toledo & Ironton	3 mos	18.064	1.315	19.379	16.512	3.658	2.683	144	6.489	4.943	441	21.334	15.887	110.1	96.2	(1.900)	430	(1.943)	(1.900)	430
	9 mos	59.046	4.396	63.443	50.150	10.248	7.265	403	17.896	15.541	1.303	60.347	48.815	95.1	97.3	(2.972)	898	(3.131)	2.972	898
Duluth, Missabe & Iron Range	3 mos	31.102	981	32.083	25.256	7.707	7.140	429	3.890	2.805	660	21.375	18.966	66.0	75.0	11.388	6.570	5.277	5.949	4.194
	9 mos	71.382	2.968	74.350	62.744	18.483	17.048	1.296	8.511	7.160	1.974	57.081	51.685	76.0	82.0	18.585	11.830	–	9.190	5.704
Elgin, Joliet & Eastern	3 mos	20.392	14.505	34.897	34.235	4.253	3.479	179	5.762	4.074	1.097	28.214	24.534	80.9	71.7	8.069	10.574	2.895	4.281	5.423
	9 mos	62.086	49.478	111.564	93.732	11.977	11.155	535	18.120	13.330	3.282	85.002	72.970	76.2	77.9	30.283	22.479	12.370	16.091	11.490
Florida East Coast	3 mos	17.987	721	18.708	15.602	4.434	3.374	228	2.994	2.083	804	15.539	12.167	83.1	78.0	4.132	5.266	765	2.788	3.515
	9 mos	54.468	1.648	56.116	48.839	12.430	10.978	697	8.005	6.199	2.366	44.394	38.073	79.1	78.0	36.541	13.841		25.583	9.047
Ft. Worth & Denver	3 mos	22.880	837	23.717	15.493	3.930	4.777	66	4.641	4.558	99	19.848	16.411	84.0	106.0	4.102	(685)	3.157	3.390	(682)
	9 mos	65.235	1.678	66.913	45.363	9.516	10.459	197	15.681	11.619	295	54.296	43.007	81.0	95.0	12.917	2.505		10.638	2.501
Grand Trunk Western	3 mos	46.138	4.498	50.636	45.826	8.651	7.682	429	12.373	12.296	1.160	54.045	45.974	106.7	100.3	(3.200)	243	(3.405)	(3.200)	243
	9 mos	147.701	11.915	159.616	141.184	21.856	18.489	1.494	43.076	38.893	3.472	159.529	139.200	99.9	98.6	1.241	2.792	93	1.241	2.792

Illinois Central Gulf	3 mos.	192.580	19.614	212.194	181.640	47.753	36.938	1.653	60.833	49.986	6.851	229.807	186.538	107.7	102.7	(21.129)	(14.189)	30 187	(19.925)	(14.558)
	9 mos.	557.709	53.753	611.462	547.138	122.383	100.457	4.969	176.553	146.463	21 405	643.734	549.404	105.3	100.4	(28.647)	(20.350)		(28.284)	(21.453)
Kansas City Southern	3 mos.	53.312	2.542	55.854	48.267	10.204	8.841	656	13.610	11.785	2.899	51.181	42.081	90.3	87.2	5.033	4 242	4 020	3.646	2.997
	9 mos.	149.739	8.760	158.499	140.686	30.596	25.540	1.814	37.025	32.763	8.525	141.662	123.105	89.4	87.5	15.941	14.463		12.672	11.236
Long Island	3 mos.	5.012	72.400	77.413	36.007	16.002	15.825	839	17.965	16.194	1.317	82.623	76.495	106.7	212.4	(5.502)	(15.085)	(4 165)	(5.502)	(15.085)
	9 mos.	14.810	208.733	223.513	104.920	54.033	45.115	2.518	53.407	45.921	3.951	244.295	214.990	109.3	204.3	(21.555)	(88.844)	(17.646)	(21.556)	(84.844)
Louisville & Nashville	3 mos.	234.493	7.536	242.029	201.591	43.965	32.919	1.536	58.199	52.325	9.778	230.566	193.867	95.3	96.2	2.101	(4.883)	24 482	14.040	(7.393)
	9 mos.	665.737	20.606	706.342	601.069	122.909	93.902	4.620	182.942	170.469	29.521	676.670	591.669	96.8	96.4	1.362	(24.279)		12.014	(29.047)
Missouri-Kansas-Texas	3 mos.	40.576	1.934	42.510	32.920	6.896	6.655	272	11.683	8.835	583	40.678	33.045	96.7	100.4	1.542	(1.816)	5 571	2.542	(209)
	9 mos.	112.433	5.174	117.607	99.668	22.336	18.865	815	33.740	28.188	1.664	117.211	98.684	99.6	99.0	(3.010)	(2.261)		2.175	2.246
Missouri Pacific	3 mos.	334.093	12.207	356.300	301.462	54.[illegible]50	49.569	2.419	80.614	67.968	13.426	317.607	255.243	89.1	84.7	28.569	37.527	32 166	19.669	24.446
	9 mos.	1.001.924	34.277	1.036.202	860.871	165.183	140.511	7.153	236.607	202.837	38.759	908.507	755.190	87.7	85.7	104.857	106.135	102 875	72.967	70.825
Norfolk & Western	3 mos.	346.248	13.459	359.707	117.905	63.238	27.360	3.479	63.974	42.262	9.963	291.947	146.073	81.2	123.9	72.459	22.441	36 049	39.422	13.184
	9 mos.	1.018.836	38.532	1.057.370	671.869	163.791	108.548	9.734	189.836	154.994	40.734	837.462	611.906	79.2	91.1	230.850	101 609		140.185	69.069
Pittsburgh & Lake Erie	3 mos.	20.454	1.558	22.012	18.400	2.900	2.538	35	(198)	1.023	(479)	13.327	12.680	60.5	70.1	7.168	4 822	10 286	4.556	3.029
	9 mos.	52.106	5.128	57.236	45.367	8.424	7.737	345	4.596	3.321	3.636	43.118	37.321	75.3	62.2	12.090	4 678		8.287	3.900
St. Louis-San Francisco	3 mos.	105.069	3.286	108.355	95.841	18.676	17.625	859	23.187	22.030	3.575	102.328	89.047	94.4	92.9	3.131	1 675	5 750	2.489	1.207
	9 mos.	310.511	10.102	320.613	289.307	55.074	51.136	2.492	71.274	62.578	10.750	296.995	261.257	92.6	90.3	13.340	15 428		10.469	14.072
St. Louis Southwestern	3 mos.	62.197	727	62.924	53.035	10.162	10.304	340	9.275	8.832	5.694	54.725	43.893	87.0	82.8	7.571	8 424	7 795	7.165	9.283
	9 mos.	191.200	1.934	193.134	166.683	31.021	30.723	1.002	30.729	26.687	16.478	160.083	139.863	82.9	83.9	34.647	25 581		32.742	23.114
Seaboard Coast Line	3 mos.	245.369	8.300	253.669	217.830	43.253	37.371	1.956	60.636	52.915	7.691	238.039	205.064	93.8	94.1	27.919	3 106	18 836	31.042	4.187
	9 mos.	734.079	24.829	758.908	669.801	130.651	103.324	5.761	179.563	163.372	23.079	690.237	605.467	91.0	90.4	84.797	34 343		88.637	37.220
Soo Line	3 mos.	73.429	1.886	75.315	66.422	16.238	14.895	316	15.720	13.635	1.857	62.830	55.427	83.4	83.4	12.161	10 700		7.719	6.534
	9 mos.	199.038	4.694	203.732	182.523	39.862	35.514	825	44.327	37.266	5.411	179.103	154.591	87.9	84.7	24.829	26 906		15.548	16.789
Southern	3 mos.	356.843	10.307	367.151	308.234	64.491	59.706	6.146	65.796	58.495	17.227	300.937	262.350	82.0	85.1	61.436	33 432	155 076	40.713	23.449
	9 mos.	1.041.226	29.800	1.071.026	923.573	195.580	162.995	14.902	195.788	169.511	50.033	871.491	756.152	81.4	81.9	175.494	138 834		127.307	96.569
Southern Pacific	3 mos.	478.478	12.969	491.447	402.155	74.664	63.686	4.473	140.254	121.973	18.231	505.150	[illegible].928	102.8	101.4	(21.116)	(7 586)	(11 835)	(19.259)	(3.705)
	9 moc.	1.393.827	35.881	1.429.708	1.224.715	213.335	196.041	13.901	391.602	349.034	53 723	1.387.751	1.210.824	97.1	98.9	44.829	19 693		40.749	16.773
Union Pacific	3 mos.	420.036	8.597	428.632	358.731	76.462	63.656	2.597	75.124	67.170	21.020	386.918	303.526	90.3	84.6	30.118	43 305	133 054	22.105	27.246
	9 mos.	1.245.822	22.701	1.268.523	1.093.952	213.439	180.000	7.763	232.399	197.130	61.910	1.094.193	913.296	86.3	83.5	144.472	149 785		103.255	99.057
Western Maryland	3 mos.	17.929	1.096	19.025	17.112	3.584	3.682	123	86	2.956	1.259	12.975	15.537	68.2	90.8	6.046	1 553	8 565	3.633	1.160
	9 mos.	52.433	4.179	56.612	48.286	9.928	9.376	368	6.055	8.501	3.658	43.762	44.424	77.3	92.0	13.076	3 634		8.770	2.719
Western Pacific	3 mos.	43.372	1.059	44.431	-	5.742	-	137	11.355		707	44.623	-	100.4	-	690		357	564	
	9 mos.	84.607	2.032	86.639	-	11.433	-	214	22.546		2.348	86.107	-	99.4	-	1.746			1.454	

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Robert D. Bartley, Regional Mgr.
Glen A. Schlueter
Regional Sales Mgr.

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3232 Babcock Boulevard
(412) 931-8552
Ronald M. Giallonardo,
Regional Sales Mgr.

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QUARTERLY INDEXES

Railroad charge-out prices and wage rates (Average 1967 = 100)

(Charge-out indexes reflect the original purchase price of fuel, material, and supplies charged to railroad operating expense accounts on the first day of the quarter. The indexes are developed from quarterly spot price indexes by providing appropriate lags between time of purchase and time charged to operating expense accounts. Wage rate indexes are based on average straight time hourly rates for the first month of the quarter; wage supplements indexes are based on the average per straight time hour paid for payroll taxes, health and welfare benefits, vacations, holidays, and other allowances.)

District and group	Oct. 1976	Jan. 1977	Apr. 1977	July 1977	Oct. 1977	Jan. 1978a	Apr. 1978a	July 1978a	Oct. 1978a	Jan. 1979p	Apr. 1979	July 1979	Oct. 1979
UNITED STATES:													
Fuel	352.6	360.4	381.1	395.3	399.0	403.1	405.9	405.0	407.2	419.7	469.6	603.2	739.7
Other materials & supplies	207.6	209.6	213.8	216.8	221.3	224.4	227.0	230.2	233.4	239.1	245.7	250.4	260.2
All material incl. fuel	248.5	252.1	260.6	266.5	270.9	274.3	277.0	279.2	282.1	289.8	307.5	345.6	387.9
Wage rates	213.8	219.4	220.0	231.3	232.8	240.8	248.2	254.8	259.7	267.5	267.5	285.6	285.6
Material prices & wages (and fuel)	224.7	229.6	232.7	242.3	244.7	251.3	257.2	262.4	266.7	274.5	280.0	304.4	317.6
Wages & supplements	233.5	241.6	243.1	253.6	254.7	267.2	272.9	278.1	281.9	294.1	294.1	311.4	311.4
Material prices, wages & supplements (excl. fuel)	226.4	235.4	237.4	246.4	248.2	258.9	263.9	268.8	272.4	283.4	284.7	299.5	301.4
Material prices, wages & supplements (incl. fuel)	237.6	244.5	247.9	257.1	259.2	269.2	274.0	278.4	282.0	292.9	297.8	320.8	332.4
EASTERN DISTRICT:													
Fuel	351.4	361.4	386.7	405.0	407.6	411.1	416.3	413.4	413.1	422.1	476.3	580.1	713.7
Other materials & supplies	202.3	204.4	208.5	210.2	213.4	216.2	217.2	221.5	226.0	230.2	239.6	243.0	252.9
All material incl. fuel	243.7	247.7	257.4	263.5	266.4	269.6	271.6	274.1	277.4	282.9	304.0	333.1	374.7
Wage rates	213.7	220.1	220.6	229.9	232.8	242.6	249.5	257.7	262.6	270.4	270.4	288.5	288.5
Material prices & wages (and fuel)	221.7	227.5	230.4	238.9	241.8	249.8	255.4	262.1	266.6	273.7	279.4	300.4	311.5
Wages & supplements	233.2	242.4	243.9	252.8	255.1	270.3	275.8	282.1	285.9	298.2	298.2	315.7	315.7
Material prices, wages & supplements (excl. fuel)	228.2	236.2	238.2	246.0	248.3	261.5	266.3	272.3	276.2	287.2	288.7	303.9	305.5
Material prices, wages & supplements (incl. fuel)	235.6	243.6	247.0	255.3	257.7	270.1	274.8	280.2	283.9	294.6	299.6	319.8	329.4
SOUTHERN DISTRICT:													
Fuel	324.1	332.0	354.3	369.3	372.2	375.6	375.3	373.0	374.7	389.1	428.4	509.3	622.7
Other materials & supplies	202.4	206.2	209.9	213.3	217.9	220.0	223.3	226.1	229.5	234.7	240.4	246.3	254.0
All material incl. fuel	235.0	239.7	248.6	255.0	259.2	261.6	263.9	265.4	268.4	276.0	290.7	316.8	353.2
Wage rates	213.9	218.9	219.4	233.6	233.2	239.6	248.9	255.5	260.4	268.3	268.3	286.5	286.5
Material prices & wages (and fuel)	221.1	226.0	229.4	240.9	242.1	247.1	254.0	258.9	263.1	270.9	275.9	296.8	309.2
Wages & supplements	235.0	241.9	243.5	256.3	255.9	265.9	273.2	278.5	282.4	294.3	294.3	311.8	311.8
Material prices, wages & supplements (excl. fuel)	228.0	234.2	236.2	247.0	247.7	256.0	262.4	267.2	271.0	281.4	282.7	297.7	299.3
Material prices, wages & supplements (incl. fuel)	235.0	241.2	245.0	255.9	256.9	264.6	270.4	274.6	278.2	288.8	293.2	313.3	324.3
WESTERN DISTRICT:													
Fuel	363.6	370.0	387.7	399.6	404.1	409.2	411.5	412.1	416.0	429.1	480.8	650.1	796.6
Other materials & supplies	212.6	213.9	218.5	221.9	227.2	230.8	233.7	236.5	239.2	244.7	251.6	256.3	266.8
All material incl. fuel	257.5	260.3	268.3	274.0	279.3	283.4	286.2	288.5	291.7	299.3	317.9	364.7	410.3
Wage rates	214.0	219.4	220.0	231.9	232.8	240.3	247.1	253.0	257.9	265.8	265.8	283.7	283.7
Material prices & wages (and fuel)	228.7	233.2	236.3	246.1	248.5	254.8	260.3	265.0	269.3	277.1	283.4	311.0	326.4
Wages & supplements	233.5	243.7	243.7	253.7	254.4	265.9	271.2	257.8	279.6	291.7	291.7	309.0	309.0
Material prices, wages & supplements (excl. fuel)	229.0	235.4	237.6	246.9	248.6	258.4	263.2	267.4	271.0	281.6	283.1	297.7	300.0
Material prices, wages & supplements (incl. fuel)	240.6	246.9	250.4	259.7	261.8	271.1	275.7	279.6	283.2	294.0	299.5	325.5	339.1

a—Wage rates in 1978 reflect the effects of retroactive pay increases applicable to time worked in 1978 but paid in 1979.

Spot prices of railroad fuel, material, and supplies (Average 1967 = 100)

(Spot price indexes reflect the price on the first day of the respective month of 65 major items of railroad purchases reported by 10 major railroads representing about two-thirds of total purchases by all Class I railroads.)

District and group	Oct. 1976	Jan. 1977	Apr. 1977	July 1977	Oct. 1977	Jan. 1978	Apr. 1978	July 1978	Oct. 1978	Jan. 1979	Apr. 1979	July 1979	Oct 1978
UNITED STATES:													
Fuel (diesel oil)	354.8	363.3	389.9	398.1	399.7	405.0	406.2	404.4	408.8	425.4	491.[illegible]	659.1	780.2
Forest products	217.2	217.0	225.2	229.4	234.0	240.0	240.9	250.8	258.6	264.5	272.[illegible]	286.2	297.2
Iron & steel prod.	219.8	223.7	224.1	230.1	233.1	236.4	242.5	245.8	252.4	263.0	268.7	277.5	286.9
Miscellaneous prod.	202.5	208.2	212.1	215.7	218.2	220.1	221.3	222.5	227.0	231.1	234.3	243.7	250.4
Total, excl. fuel	209.6	213.8	216.8	221.3	224.4	227.0	230.2	233.4	239.1	245.7	250.4	260.2	268.3
Total, incl. fuel	250.5	256.9	265.1	270.7	273.4	276.5	279.5	281.5	286.8	296.3	316.9	367.3	404.7
EASTERN DISTRICT:													
Fuel (diesel oil)	353.6	365.2	397.3	408.9	407.0	413.4	417.9	411.1	414.0	426.0	501.4	619.6	760.9
Forest products	206.6	208.4	212.4	217.9	220.9	224.8	225.4	234.2	237.5	251.0	254.6	267.0	274.8
Iron & steel prod.	207.7	213.5	213.5	218.8	221.6	221.6	229.9	234.1	240.1	251.6	257.1	266.0	274.0
Miscellaneous prod.	206.4	209.6	212.8	213.1	215.6	216.8	218.4	222.0	224.4	231.0	232.4	242.8	250.6
Total, excl. fuel	204.4	208.5	210.2	213.4	216.2	217.2	221.5	226.0	230.2	239.6	243.0	252.9	260.8
Total, incl. fuel	245.9	251.8	261.5	266.9	268.4	270.9	275.2	277.0	280.8	291.2	313.0	350.9	393.0
SOUTHERN DISTRICT:													
Fuel (diesel oil)	326.6	334.6	364.2	371.9	372.2	377.3	374.4	372.4	375.8	395.9	444.8	541.6	663.4
Forest products	223.5	225.7	227.4	232.2	230.4	240.2	242.0	255.4	258.7	266.5	276.9	286.4	299.7
Iron & steel prod.	221.6	225.4	226.2	232.6	236.2	238.0	245.5	247.3	254.3	263.1	369.3	277.4	288.0
Miscellaneous prod.	194.5	199.2	205.9	209.0	211.1	213.7	212.1	213.5	217.8	219.9	224.0	230.2	235.9
Total, excl. fuel	206.2	209.9	213.3	217.9	220.0	223.3	226.1	229.5	234.7	240.4	246.3	254.0	262.4
Total, incl. fuel	238.4	243.3	253.7	259.3	260.7	264.6	265.8	267.8	272.4	282.0	299.4	331.3	370.2
WESTERN DISTRICT:													
Fuel (diesel oil)	365.2	372.3	395.4	401.8	405.4	410.5	412.1	412.1	417.9	434.9	503.6	723.0	833.2
Forest products	226.0	223.8	237.1	240.7	250.2	254.8	255.8	265.2	259.9	279.0	288.0	304.2	317.5
Iron & steel prod.	218.2	221.7	221.7	227.6	230.6	233.7	238.9	242.8	250.1	260.4	265.3	274.9	283.4
Miscellaneous prod.	205.7	212.1	215.9	220.9	223.8	226.2	227.9	228.4	234.9	236.9	240.8	250.5	257.3
Total, excl. fuel	213.9	218.5	221.9	227.2	230.8	233.7	236.5	239.2	244.7	251.6	256.3	266.8	274.8
Total, incl. fuel	259.1	264.4	273.1	278.6	282.5	286.0	288.7	290.5	296.5	305.9	327.3	391.5	426.0

Note: Based on prices as of first day of months shown.

Source: Economics and Finance Dept., AAR.

Market

CARLOADINGS

Loadings of revenue freight in the week ended Dec. 8 totaled 472,045 cars, according to the Association of American Railroads. This was a decrease of 6,489 cars, or 1.4%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Dec. 8 are estimated at 18.1 billion, an increase of 4.4% above the corresponding week of 1978.

REVENUE FREIGHT CARLOADINGS

Commodity	Dec. 8 week	Dec. 1 week	Nov. 24 week
Grain	35,027	34,081	30,624
Farm products	6,213	6,730	5,792
Metallic ores	32,180	35,406	32,891
Coal	109,339	107,292	97,074
Crushed stone, gravel & sand	14,828	15,210	12,621
Nonmetallic minerals	14,014	15,607	14,180
Grain mill products	19,190	17,965	15,673
Food and kindred products	19,397	18,771	15,596
Primary forest products	21,361	21,151	16,513
Lumber & wood products (except furniture)	10,063	10,006	7,898
Pulp, paper & allied products	22,081	22,190	20,118
Chemicals & allied products	28,476	29,406	23,790
Petroleum products	6,451	6,456	4,987
Stone, clay & glass products	17,097	17,474	14,858
Coke	5,847	6,312	5,708
Metals & products	17,151	18,578	14,756
Motor vehicles & equipment	21,647	19,313	14,308
Waste & scrap materials	13,527	12,873	10,816
Forwarder & shipping assn. traffic	12,228	11,662	9,328
All other carloads	45,656	43,122	35,519
LCL traffic	272	352	294
Total car loaded	**472,045**	**469,957**	**403,344**

	1979	1978
Cumulative total, 49 weeks	**22,656,248**	**22,100,855**
Estimated revenue ton-miles (billions) 49 weeks	**855.0**	**809.9**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Dec. 1 totaled 35,392 cars (0.1% beow the corresponding 1978 week) and 62,002 trailers or containers (up 8.5% from 1978). Cumulative volume for the first 48 weeks of 1979 is 1,724,867 (up 1.4% from 1978) and 3,043,690 trailers or containers (up 3.6% from 1978).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended Nov. 21 totaled 5.6 million tons (up 4.4% from 1978). Cars loaded totaled 82,512 (up 3.5% from 1978). Cumulative loadings for 1978 were up to 235.5 million tons (up 9.5% from 1978).

- *Argentine Railways.*—Ordered 16 12-cylinder, 2,050-hp diesel engines from Alco Power of Auburn, N.Y., to upgrade the system's Alco locomotive fleet.

- *CP Rail.*—Ordered 75 3,000-hp diesel-electric units from General Motors of Canada Ltd. at an estimated cost of $75 million (Canadian). Delivery is scheduled for fourth quarter 1980 and first quarter 1981. CP Rail also ordered 50 100-ton, 65½-foot gondola cars from Hawker Siddeley at a cost of approximately $2.6 million.

- *U.S. Department of Transportation.*—Has asked Congress for an additional $750 million for the Northeast Corridor Improvement Project. This would bring the total cost of upgrading Amtrak's Washington-New York-Boston line to $2.5 billion. The additional money is needed, said Federal Railroad Administrator John M. Sullivan, in order to complete the project as it was originally planned. He said unexpectedly steep inflation and construction delays have escalated the early cost estimates, adding: "By sticking to the original basic project, we can produce an electrified, high speed public transportation system, potentially independent of the need for petroleum."

- *Freight cars and locomotives.*—The following report has been received from the AAR and the ARCI:

DELIVERED

	October		September	Ten Months	
	1979	1978	1979	1979	1978
Built new by carbuilders	7,758	6,174	6,618	68,513	49,855
Built new in RR shops	349	291	344*	4,469	3,868
Built new - total	8,107	6,465	6,962*	72,982	53,723
Rebuilt	96	8	94	1,612	1,298
TOTAL DELIVERED	**8,203**	**6,473**	**7,056***	**74,594**	**55,021**
Locomotives (new and rebuilt)	183	104	269	1,564	1,024

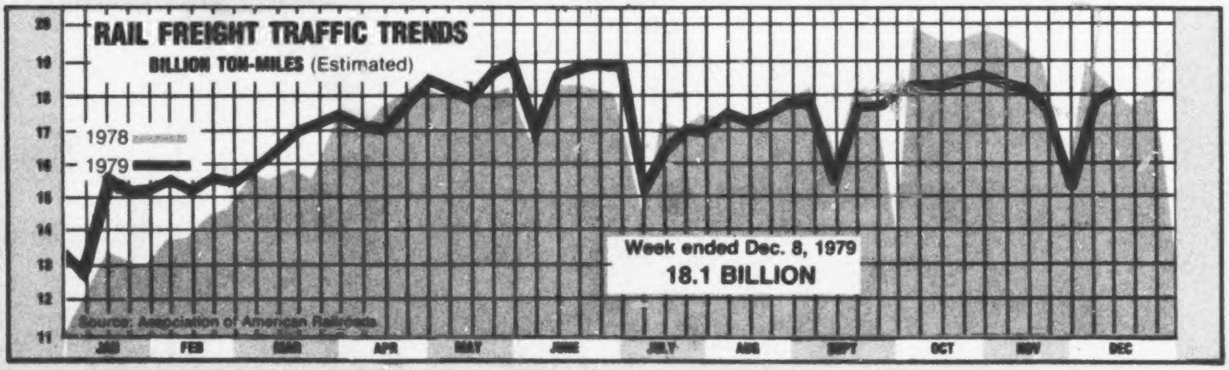
ORDERED

	October		September	Ten Months	
	1979	1978	1979	1979	1978
To be built new by carbuilders	6,129	9,010	10,881	99,777	102,166
To be built new in RR shops	0	0	992*	4,463	2,934
To be built new - total	6,129	9,010	11,873*	104,240	105,100
To be rebuilt	95	0	155	895	122
TOTAL ORDERED	**6,224**	**9,010**	**12,028**	**105,135**	**105,222**

ON ORDER AND UNDELIVERED

	November 1		October 1	Average backlog	
	1979	1978	1979	1979	1978
To be built new by carbuilders	117,422	82,119	121,375	113,746	58,169
To be built new in RR shops	6,305	5,486	6,654*	6,359	5,403
To be built new - total	123,727	87,605	128,029*	120,105	63,572
To be rebuilt	170	100	171	117	505
TOTAL ON ORDER	**123,897**	**87,705**	**128,200***	**120,222**	**64,077**
Locomotives (new and rebuilt)	774	924	677	1,000	746

*Revised figures



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Product liability: Help may be on the way

January 14, 1980

RAILWAY AGE

Passenger trains: A fast comeback

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Inside

LUTHER S. MILLER

OUR BORN-AGAIN TRAINS

Like Will Rogers, a lot of people know only what they read in the papers. These people must have a pretty low opinion of the passenger train business. Here's a fair sampling of the newspaper headlines they've been reading recently: Amtrak Sues Southern Pacific; Pullman Named in a Second Suit on Subway Cars; Commuter Rail Service, Still Deteriorating after Fuel Squeeze, is Seen at Perilous Point; Philadelphia Subway Called Worst 'That Could Happen'; Auto-Train Defaults on Notes.

The stories that appeared beneath those headlines were, for the most part true—all too true. But there's a bigger truth that most of the papers, afflicted with the kind of tunnel vision that often passes for objective reporting, are missing. It is this: The passenger-train business today is the healthiest it has been in many years, and its prospects for further recovery are brighter than at almost any time since man learned to drive and fly.

The main reason for this, as our cover story (p. 16) makes clear, is not any great resurgence of public affection for trains; it is, rather, the recognition by policy makers that there's a better way to burn up our oil than on the highways.

How far the federal government has turned around on the subject of public transportation generally, and rail transportation specifically, becomes clear when you compare the beginning of the decade of the '80s with the beginning of the decade of the '70s. Ten years ago, when Congress was considering a $10-billion, 12-year program of aid to transit, some people reacted as if it were the beginning of the end for pay-as-you-go democracy. Today Congress is talking about a $50-billion federal investment in public transit over the next 10 years (with about 60% going to rail), and the news has stirred scarcely a ripple of protest among the guardians of our moral fiber.

Ten years ago, there was only a trickle of aid to intercity passenger trains, though there was some talk of a takeover of the train business by a quasi-public agency to be called Railpax. Railpax became Amtrak, and it went into business on April Fool's Day, 1971—good timing, grumbled those who were calling a one-time $40-million capital grant fiscally foolish. Today the federal investment in Amtrak is close to $1 billion a year and rising—a buy that a couple of oil crises have made look like the bargain of the century.

We may not have a lot to thank the OPEC nations for—but passenger train partisans are forever in their debt.

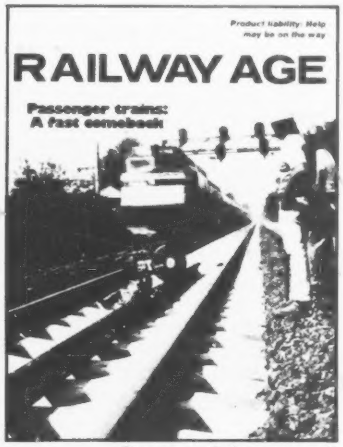
"IT TOOK 30 YEARS TO GET IN THIS MESS..."

There are still those who believe the bus can do every job best, and that there's not much future for new rail transit. Bill Stokes is not one of them. Stokes, who will soon leave the American Public Transit Association to oversee the building of new transit systems in Saudi Arabia, gave *Railway Age* this five-year forecast: "I think you're going to see Los Angeles, Portland, and Detroit actually starting rail construction, and I'd guess that another half dozen cities will be in some advanced stage of planning. If one thing has come out of this whole energy mess, it's the growing recognition that electrically powered rail transit has to be an important element of our planning for the long-range future. It took us 30 years to get our cities in the mess they're in now, spread out all over the landscape. It will take less time, I hope, to undo some of the damage."

RAILWAY AGE

January 14, 1980

FEATURES


Product liability: Help may be on the way
RAILWAY AGE
Passenger trains: A fast comeback

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Intercity, commuter, and rapid transit operations will benefit hugely from the billions of dollars in new federal aid being made available by policy makers who want a fuel-efficient alternative to the automobile.

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To shore up sagging earnings, the company is (1) encouraging customers to put their cars on Auto-Train and themselves on Amtrak or an airplane, and (2) expanding its freight car repair and assembly operations.

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After two disappointing work seasons, during which goals were far from met, the Northeast Corridor Improvement Project hit its stride last year. A new look is visible, with 160 miles of renewed track in place.

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The number of claims is rising; dollar settlements and insurance costs are soaring. But there are ways, a Railway Age seminar was told, to ease the problem. Some are embodied in pending legislation.

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COVER: Track cutters wait on the shoulder for an Amtrak train to pass. NECIP operations are scheduled to keep trains moving as normally as possible.

Passenger trains

Big dollars make a big difference

By LUTHER S. MILLER, Editor

Superliner-equipped "Empire Builder" at Belton, Mont. "Amtrak's future looks about five times rosier than it did a year ago," says President Alan Boyd.

Years of neglect and malnutrition have left their marks on the railroad passenger business in North America. "We are suffering from a generation gap—a whole lost generation during which we did not train new managers or maintain our technical skills," mourned the operating chief of a big eastern rail transit system not long ago.

But an energy crisis can do a lot to close even a generation gap—and as a result of the great energy crisis of 1979, the comeback of the passenger train is gathering momentum at a pace faster than anyone thought possible just a year ago. The only really sour note today comes from the railcar manufacturers, who have seen a sizeable chunk of their business go overseas and are now fighting to get it back. Among operating people, there is solid optimism nearly everywhere you look.

"Amtrak's future today looks about five times rosier than it did a year ago," says President Alan S. Boyd.

"By any measurement," says Bill Stokes, president of the American Public Transit Association, "the outlook for rail and bus transit in 1980, as well as the entire decade of the '80s, is the brightest that it has ever been."

The roots of this optimism lie deep within the U.S. Treasury. To put it simply, Congress has decided that America must have an alternative to the gas-greedy automobile. That alternative is public transit—particularly fuel-efficient rail transit—and the federal pursestrings are being loosened to pay for it.

● **A $30-billion market.** By *Railway Age*'s estimate, around $30 billion in federal funds—and matching state and local funds—will be available for rail passenger capital improvements during the next 10 years. More billions will be available for operating subsidies.

The Urban Mass Transportation Administration figures it will have $50 billion to disburse during the decade in combined capital grants and operating subsidies. This is based on the expectation that up to $16 billion in windfall oil profits taxes will be added to UMTA's normal funding for the period. Of the $50 billion, about $30 billion will go for rail and bus capital grants, based on the patterns of the last 10 years (the remainder being earmarked for operating assistance). Of the $30 million available for capital, some $18 billion will go to rail transit and commuter agencies—again based on past patterns (and taking into account the likelihood that a slightly higher proportion will go to buses in coming years). To that, add state and local matching funds of around $5 billion. And to *that* add several billions of dollars that will be diverted to transit from cancelled urban highways, under the Interstate Transfer provision of the National Highway Act.

Meanwhile, Amtrak, which is separately funded, stands to get around $3 billion over the next 10 years for capital improvements—probably a conservative estimate, because capital funding is already approaching the $300-million-a-year mark.

There's similar activity in Canada, where the Province of Quebec has just voted to spend over $1 billion on rail passenger improvements in the Montreal area over the next five years.

A large part of this money will go for new equipment. *Railway Age*'s annual survey of the railroad passenger car market shows that the operating authorities as of Dec. 31, 1979, had 1,535 new cars on order, a backlog slightly higher than that of a year ago. They plan to order nearly 4,900 more new cars during the next five to 10 years, 1,000 more than they were projecting a year ago.

● **The riders return.** The new equipment will come on line none too soon. A survey of operating agencies across the U.S. and Canada presents this picture:

—For Amtrak, fiscal year 1979 was the busiest in history. Amtrak's trains carried 21.5 million passengers, a 14% increase over 1978. Because the average journey was longer, the increase in passenger-miles was even more impressive—22%. Because both ridership and fares increased, the ratio of revenues to expenses improved. In 1979, revenues covered 41.5% of expenses, vs 38.5% in '78.

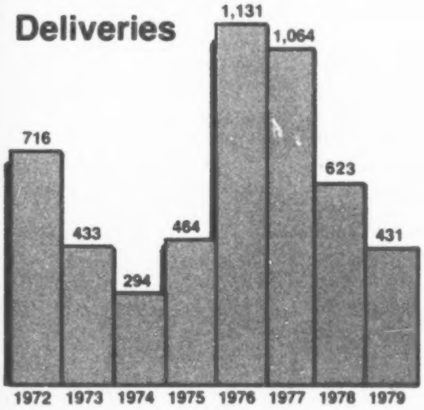
—VIA Rail, Amtrak's Canadian counterpart, carried 6 million passengers in 1979, 300,000 more than in 1978; ridership during the company's three years of existence has risen by 34%. Says VIA Rail Chairman and President Frank Roberts: "The Iranian crisis, escalating oil costs, and gas shortages in the U.S. have combined to drive home the message that we in Canada are not immune to energy shortages. It is in this context that I see an extremely bright future for passenger trains in Canada. We shall simply no longer be able to ignore the fact that trains are the most energy-efficient means of public transportation available to us."

—Rail transit ridership has also reversed a long-time downward trend. During the first 10 months of 1979, reports APTA, heavy-rail rapid transit systems in the U.S. and Canada rolled up nearly two billion unlinked passenger trips, a 4.71% increase over the same period in 1978. Even New York City's trouble-plagued subway trains, whose ridership has declined drastically and regularly since World War II, have experienced a turnaround. On a recent average weekday, New York City Transit Authority trains carried 3,585,982 passengers, up 3.8% from a year earlier. Meantime, the new Washington Metro continues to give the lie to those skeptics who claim that conventional rail transit is a thing of the past. Metro's average daily ridership in fiscal 1979 was 227,572, compared with 147,556 in 1978. The popularity of the 31 miles of the system that are now in service has insured that the entire 101-mile system will be completed. Congress late in 1979 voted the $1.7 billion needed to finish the job.

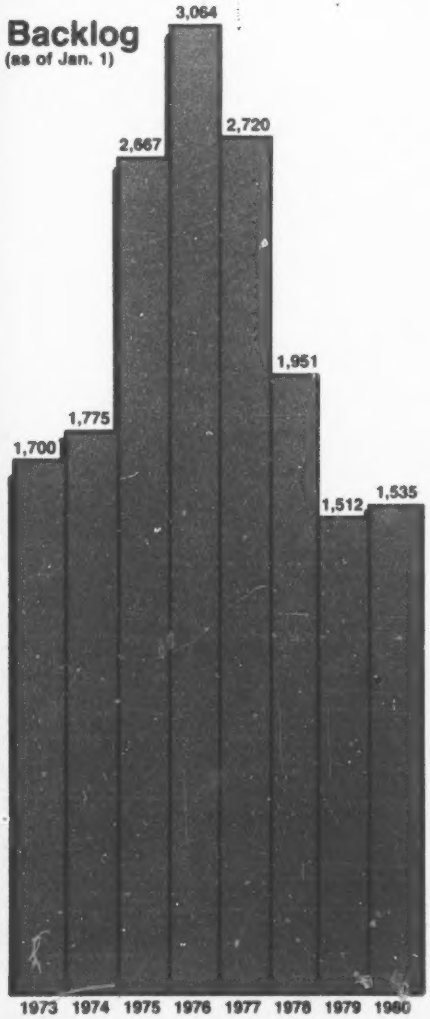
● **New systems, new starts.** A number of new systems—some under construction, as in Baltimore, Dade County (Miami), Buffalo, Pittsburgh, and Calgary,

Passenger car market at a glance

Deliveries



Backlog
(as of Jan. 1)



These cars were delivered in 1979:

Purchaser	No. of cars	Type	Builder
Amtrak	55	Coaches	Pullman Standard
	4	Diners	Pullman Standard
	2	Sleepers	Pullman Standard
Atlanta (MARTA)	48	Rapid transit	Franco Belge
Chicago Transit Authority	10	Rapid transit	Boeing Vertol
Chicago RTA	15	Commuter	Budd
Edmonton Transit	3	Commuter	Siemens-Duwag
MBTA (Boston)	52	Commuter	Pullman Standard
	40	Commuter	Hawker-Siddeley
Montreal (MUCTC)	12	Rapid transit	Bombardier-MLW
New Jersey DOT	59	Commuter	General Electric
PATCO (Lindenwold)	12	Rapid transit	Canadian Vickers
San Francisco Muni	71	Light rail	Boeing Vertol
Toronto Transit Commission	48	Rapid transit	Hawker Siddeley
Total	431		

Work goes forward on this undelivered backlog:

Purchaser	No. of cars	Type	Builder
Amtrak	42	Coaches	Pullman Standard
	34	Diners	Pullman Standard
	67	Sleepers	Pullman Standard
	25	Lounges	Pullman Standard
	10	Intercity	Bombardier-MLW
Atlanta (MARTA)	72	Rapid transit	Franco-Belge
Baltimore Metro	72	Rapid transit	Budd
Calgary Transit	27	Light rail	Siemens-Duwag
Chicago Transit Authority	300	Rapid transit	Budd
Chicago RTA	55	Commuter	Budd
Cleveland (GCRTA)	48	Light rail	Breda
Dade County (Miami)	136	Rapid transit	Budd
MBTA (Boston)	150	Commuter	Hawker-Siddeley
PATCO (Lindenwold)	32	Rapid transit	Canadian Vickers
SEPTA (Philadelphia)	141	Light rail	Kawasaki
San Diego Transit	14	Light rail	Siemens-Duwag
San Francisco Muni	20	Light rail	Boeing Vertol
Toronto Transit Commission	146	Rapid transit	Hawker-Siddeley
VIA Rail Canada	50	Intercity	
Washington Metro	94	Rapid transit	Breda
Total	1,535		

These orders are likely to develop in 1980:

Purchaser	No. of cars	Type
Amtrak	200	Low-level intercity
Cleveland (GCRTA)	60	Rapid transit
Edmonton Transit	20	Light rail
New Jersey DOT	57	Commuter
New York MTA	70	LIRR m-u commuter
	60	Conrail m-u commuter
	15	Rail diesel cars
NFTA (Buffalo)	30-40	Light rail
SEPTA (Philadelphia)	125	Rapid transit
Washington Metro	50	Rapid transit
Total	687-697	

The 5-10 year outlook:

Purchaser	No. of cars	Type
Amtrak	200-300	Low-level intercity
	20-50	M-u
Atlanta (MARTA)	100	Rapid transit
Baltimore Metro	30	Rapid transit
Bay Area Rapid Transit	150	Rapid transit
Calgary Transit	40	Light rail
Chicago Transit Authority	500	Rapid transit
Chicago RTA	200-500	Commuter
Denver	192	Light rail
Edmonton Transit	56	Light rail
Honolulu Transit	200	Rapid Transit
Montreal (MUCTC)	12	Rapid transit
New Jersey DOT	45-57	Commuter
	20	Light rail
New York City Transit Authority	610	Rapid transit
New York MTA	394	LIRR commuter
	180	Conrail commuter
PAT (Pittsburgh)	55	Light rail
San Francisco Muni	20	Light rail
San Juan Transit	100	Rapid transit
SCRTD (Los Angeles)	120	Rapid transit
SEMTA (Detroit)	60	Double-deck commuter
	70-100	Light rail
SEPTA (Philadelphia)	120	Light rail
	30	Rapid transit
	100	Commuter
Toronto Transit Commission	100	Rapid transit
Toronto (GO Transit)	70	Double-deck commuter
VIA Rail Canada	200	Intercity
	100	Self-propelled
Washington Metro	300	Rapid transit
Total	4,394-4,866	

Old transit systems need more operating funds; Amtrak's biggest problem is a shortage of equipment

plus others still in the engineering or planning stages—are beginning to compete with the older systems for federal funds. Los Angeles, the biggest U.S. city now without rail transit, is ready to start $45-million worth of preliminary engineering for an 18.6-mile rapid transit "starter" line that will cost $1.2 billion. The Southeastern Michigan Transportation Authority a few weeks ago gave final approval to construction of an 11.3-mile light rail line for Detroit. Honolulu and San Juan are still in the preliminary planning stages, and a growing number of cities are taking a look at light rail, the latest entries on that list being Austin, Dallas, and Saskatoon.

● **Bad news, too.** To say that the rail passenger picture has never, in recent years, looked brighter than it looks today is not to say that there are not still many dark spots in that picture.

There will never, it seems, be enough money to plug up all of the leaks in some of the older rail systems. Boston's transit lines in recent weeks have been going through a severe fiscal crisis—so severe that the governor of Massachusetts had to "seize" the Massachusetts Bay Transportation Authority (on paper, anyway) in order to free enough money to keep the trains, trolleys, and buses running. As a result, Boston, which now has a 25-cent fare, could see the fare possibly doubled this year.

The size of the problem confronting the older systems was indicated by the new chairman of New York's Metropolitan Transportation Authority, Richard Ravitch. Said Ravitch: "The impact of inflation on our cost of fuel, power, parts, and labor has been enormous. To maintain the same level of service on the NYCTA operation in the next fiscal year will cost approximately $100 million more than in the present fiscal year. This does not include one cent for the impact of a wage settlement. Each 1% increment in the level of compensation has a budget impact of $10 million." Similarly, he said, to maintain the same level of service on MTA's commuter railroads would cost an additional $70 million through December 1980—plus $4.5 million for every 1% increase in labor costs.

● **Goldschmidt's "lowest priority."** Under the Carter Administration, the prospects for new rail transit start-ups is far from clear. Early in his Administration—on March 21, 1977—President Carter sent a memo to his Secretary of Transportation asking for a halt to "grossly overdesigned," costly fixed-rail systems, with particular reference to the Washington Metro, now estimated to cost more than $70 million a mile (vs the $22.5-million-a-mile cost of San Francisco's BART, which at the time was widely thought to be extravagant). The Carter people became more sympathetic to transit generally with the onset of the energy crisis—and to rail transit in particular when they needed to drum up public support for the windfall oil profits tax. But new DOT Secretary Neil Goldschmidt recently told an interviewer that he would probably give new rail systems "the lowest priority of all," because the fastest and cheapest way to attract riders to public transit was adding more buses. Nonetheless, half a dozen new rail start-ups are firmly in the works.

● **Amtrak's woes.** Amtrak's own problems are less related right now to money than to service levels and continuing equipment problems. In fiscal 1979, Amtrak's trains ran on schedule only 82% of the time, down from 91% a year earlier. The best performances were turned in by Richmond, Fredericksburg & Potomac (90.5%), Seaboard Coast Line (84.9%), and Union Pacific (82%); the worst by Delaware & Hudson (29.1%), Conrail (45%), and Illinois Central Gulf (47.8%).

One of the better on-time performance records, 79.4%, was posted by Southern Pacific—but it was SP that the U.S. Department of Justice sued late in December, charging that the railroad was violating federal law by giving its freight trains priority over an Amtrak passenger train.

Amtrak President Boyd told *Railway Age* later that he was not "after" SP or any other railroad but was simply trying to clarify Amtrak's relationship with the rest of the industry. "I tried to make it clear," said Boyd, "that we were taking a rifle shot approach at this one operation of one railroad, and that in fact the Southern Pacific does a pretty good job for us on the 'Coast Starlight.' We are certainly not shooting at the railroad industry. But we have got to be in a partnership with them; how we get there I don't know. Some of the railroads have taken the marriage vows with us, but others are bound and determined to be divorced. If nothing else, we've got to develop a common law marriage."

Amtrak's biggest single problem in the new year and for much of the new decade, says Boyd, will be insufficient equipment. "We're operating at close to capacity," he says. "One reason we didn't show an even bigger ridership gain last year was that we had no place to put the people. I'm talking, of course, about critical segments. Every day you're going to find seats on trains."

Amtrak is leasing all of the equipment it can find, including a batch of cars from the New Jersey DOT. Delivery of the Pullman Standard Superliners is now easing the equipment problems west of the Mississippi. This year Amtrak will order 200 of the low-level cars for eastern service, with several hundred more to follow.

● **Gloom among the builders.** The Amtrak orders are very likely to be placed with the only U.S. carbuilder still soliciting new business—the Budd Co. But there is distinct possibility that many of the other new orders will go offshore, despite efforts to get U.S. buyers to adhere to a strict "Buy American" policy. Budd, not surprisingly, has been spearheading these efforts—and it was Budd's charges that builders in Italy and Japan are "dumping" cars in the U.S. that has led to a preliminary investigation by the Department of Justice.

Two of the big carbuilders have said they will withdraw from the business as soon as present orders are filled—Pullman Standard and Boeing Vertol. Both have taken heavy losses on recent contracts. Boeing Vertol just weeks ago made a costly settlement with Boston's MBTA, agreeing, among other things, not to deliver the final 40 cars of a 175-car LRV order, at the same time paying MBTA $40 million and providing the authority, free of charge, kits for modifying the remaining cars. Pullman, having already taken a large loss on the R-46 order it delivered to New York, is now engaged in litigation with the City of New York over alleged faults in the cars.

Both Amtrak's Boyd and APTA's Stokes remain hopeful that there will be a revival of passenger car manufacturing in the U.S. Boyd last year called on bankers to help finance such a revival. And Stokes told *Railway Age* in a recent interview: "I think there's a distinct possibility that we're going to see a resurgence in the transit manufacturing industry in this country, in rail equipment as well as buses. The problem in the past has been the on-again, off-again federal policies, and the whims of individual system designers and specification writers. I think that with the clearer picture that is now emerging for the next 10 years, with the additional funding, and with the prospects for a doubling of transit ridership, there's a distinct possibility that some manufacturers are going to find it economic and worthwhile to get back into the business."

What does it all add up to? A rail transit lobbyist in Washington put his new year prediction in these words: "We're going into the new year and the new decade with our usual load of problems—but with an unusual load of money to throw at them." ■

NE Corridor improvement: '79 was

By JOHN ARMSTRONG
Associate Editor

To borrow Winston Churchill's characterization of the significance of the North African campaign in the winning of World War II, the 1979 construction season on the Northeast Corridor Improvement Program, while not representing the beginning of the end in the job of bringing reliable, high-speed passenger service to the Washington-Boston route, can definitely lay claim to being the end of the beginning.

What in springtime was a pious hope (*RA*, April 9, 1979, p. 24) has become an accomplished fact: Amtrak's Track Laying System (TLS) *did* put down 121 miles of concrete-tie/cwr track by the time its operation was closed down for the year on Dec. 12. No one is denying the importance of exceptionally benign autumn weather in allowing a full season of productive work, but as the work force winds down its efforts to winter level, the box score figures are there in many of the major categories of track work (see table).

Most clear-cut, perhaps, as an indicator of the credibility of NECIP plans for the rest of the task is the "cost efficiency" figure, which compares accomplishments with expenditures as the season advances. "We don't expect the figure to stay up there above 100% from here on out," says FRA Project Director Louis S. Thompson. "Winter working conditions on those types of work which can continue simply can't be expected to be that good, but we'll wind up the year very close to target.

"The learning curve has reached a level in line with our plans after those two painful seasons, and that can't help but give people a lot more confidence and pride in what we're trying to do. On the TLS, the Canadian National experience was that there was some further increase in productivity between the second and third years. We're not counting on that, because next year the TLS will be working on the south end in multiple-track, heavy-traffic territory under the catenary, where there is bound to be more interference and there are shorter segments between interlockings. Plans for the 1980 season will call for fewer miles of TLS work, but we know that we can count on making the schedule in planning other work around it."

With a total of over 160 miles of renewed track in place, whole segments of the corridor have taken on a new look. Both tracks from Readville, Mass., to Boston Switch (just north of Providence) are now cwr/concrete-tie mains, completing that aspect of the NECIP for the Massachusetts portion of the line (except for the section that MBTA is rebuilding into a four-track rapid transit, commuter rail, and Amtrak artery). Amtrak has been able to raise the speed limit over much of this territory to 90 mph (from the best-previous 79 mph), with often startling results in making up time on current schedules.

● **What doesn't show.** At the same time, much of 1979's accomplishments must be likened to underwater parts of the job of building an iceberg that will eventually tower above the surface—essential but unglamorous matters such as the work of Amtrak crews in clearing 1,323 manholes in preparation for installation of the new signaling system.

And what about those 614,000 wood ties that had been installed by Dec. 1, 1979 as a result of the three seasons of work? Much of the track work in this year's program has been in support of minimized service disruption in next year's TLS work—spotting in ties in the "outside" (primarily freight) tracks on the south corridor and bringing these lines up to Class 6 standards so they can take Metroliners at 100 mph while the "designated" (120-mph) tracks are being renewed.

"The difference between now and the start of the program is that we have a basically sound track structure over the entire south end of the corridor, which we definitely didn't before," says Amtrak Assistant Chief Engineer-Track Gene Ellis. "So far, we've had to concentrate on getting the new track material in place, and surfacing to Class 6 standards for high speed has suffered, although we have done somewhat better this past season. In 1980 we will be emphasizing the training and attention to details it takes to have really good track."

Thousands of passengers a day now ride over the 8.9 miles of concrete-tie track installed late in the 1978 season on the southbound main through Aberdeen, Md., where Conrail freight traffic is dense. "There have been no surprises," reports Ellis. "It has performed as expected; we surfaced it this season, as we expect to have to do on about a yearly cycle in heavy-tonnage territory."

Other answers to important NEC questions are being generated elsewhere. Since mid-December of last year, an accelerated preview of future maintenance needs is being generated by a million gross tons of traffic per night passing over a section of the FAST loop at Pueblo that duplicates the corridor's rail-tie-fastener-ballast system. Whether results turn out to be closer to predictions of the optimists or pessimists, there will be more advance notice to allow corridor plans and practices to respond.

Catenary of the design to be installed on the New Haven-Boston segment is already in place on a 14-mile loop at the Transportation Test Center. It has been tested "cold," and would already have been energized if a problem that showed up in testing of the transformer (which necessitated rewinding) had not been followed by a strike at the plant. Nevertheless, the transformer is now on site, electrification check-out with lower-speed equipment is starting, and the Pueblo loop is expected to be ready to test the second of Amtrak's AEM-7 electrics at full speed when it is delivered by General Motors in April or May. NECIP engineers will be looking with great interest at rail loads measured in the tests of this descendant of the lightweight Swedish RC-4 that was tested successfully in NEC service two years ago.

Farther down the road—but always in the thoughts and calculations of corridor managers who must expect frequent "why can't you go faster" queries at all levels—lie the possibilities of tilt-body operations over the curves of the north end. Amtrak is leasing the first two "production" LRC (Light, Rapid, Comfortable) train-sets being produced by MLW-Bombardier, which would have been under Amtrak-FRA test already had it not been for a strike at the locomotive plant from July to December, 1979. ("You get used to such things on a project of this complexity," philosophizes Lou Thompson.) The key knowledge to be gained from this program will be the feasibility of operating tilt-body trains (and their locomotives) over curved trackage at speeds comfortable for their passengers without generating unacceptable track forces.

● **Will it match the dollars?** Bit by bit, piece by piece, the items of knowledge, experience, planning, and assurance fall into place. But can the whole thing be made to fit within a budget that has a chance of flying?

In the case of NECIP, an off-the-top-of-the-head $1.75-billion project total has acquired some of the status of Holy Writ. The "redirection study" released in January 1979 recommended a stretch-out of about two years beyond the mandated 1981, recognizing that meeting the original date would require a level of effort virtually shutting down the railroad. Inflation, previous overoptimism, and a closer look at the tasks involved led to a recommended $654-million increase in the program to a total of $2.404 billion.

a good year

Then-DOT Secretary Brock Adams had Administration approval for the new program, and Senate committee hearings were held, but no implementing bill was actually submitted. With DOT's Amtrak amputation recommendations under consideration on the Hill, the numerous legislators throughout the land who were losing passenger trains could at best be expected to feel ambivalent toward voting more money for improved service up in one small, albeit populous, section.

The problem couldn't be ignored indefinitely, of course, and in late July a DOT letter to congressional leaders indicated that the Administration intended to stick by the $654-million figure. Chairman Cannon and his colleagues on the Senate Commerce, Science, and Transportation Committee fired back letters to DOT and Amtrak asking for independent answers to a number of pointed questions on NECIP status and plans, including references to "very large cost increases now surfacing."

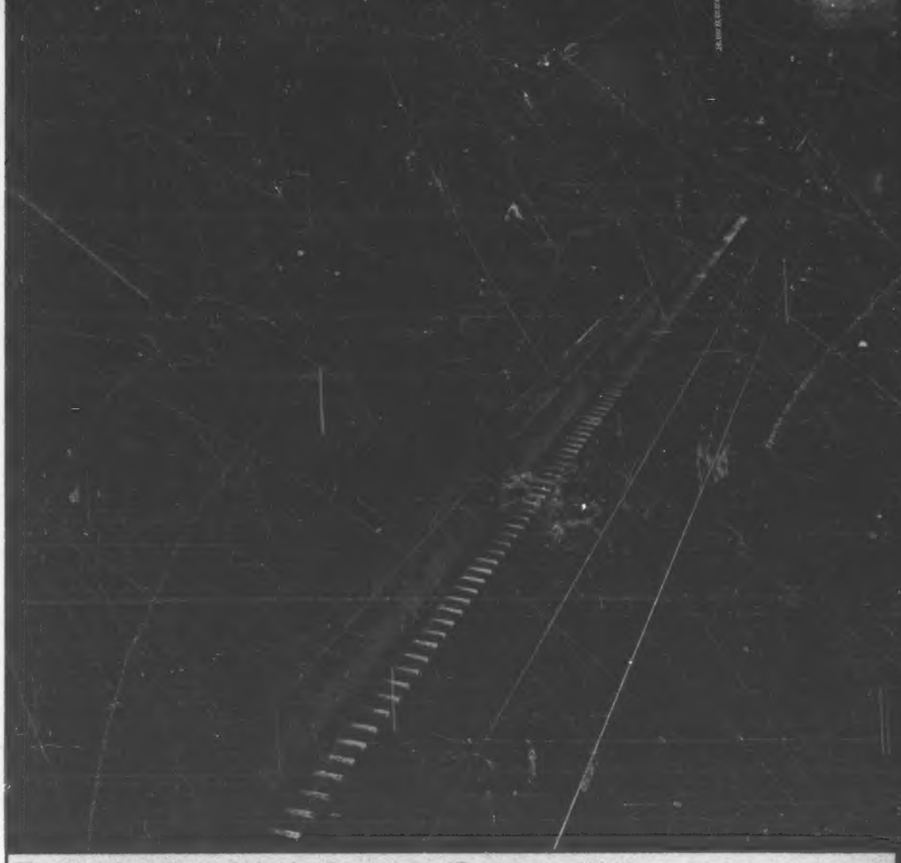
While improving NECIP progress in the field and Amtrak's record ridership (augmented further by the gasoline crunch of early summer) were plus factors, and Congress did at the last minute resolve the question of the national passenger route structure, FRA and DOT had plenty of sticky matters to handle in responding:

—Actual inflation rates above those used in earlier estimates added $74.8 million.

—Continued refinements of the redirection study cost estimates (which actually dated mostly from the summer of 1978 and reflected little of the experience data from that work season) resulted in far more upward than downward adjustments, for a net increase of $164.8 million.

—Adjusting the cost-estimating process to make rational provisions for contingencies during program execution added $111.7 million.

—It was found that the redirection study figures inadvertently did not include Amtrak system engineering and project management costs in either the individual line items or in project cost totals, an omission of $106.7 million—not in the same league as last October's $3.8-billion error in money-supply reporting to the Federal Reserve's M-1 watchers, but still far too big a lump to hide under the carpet.



Plasser undercutter works behind the automated Track-Laying Machine.

NECIP's accomplishments to date

Work item	Unit of measure	Work season* 1977-78 (actual)	1978-79 (actual)	1979-80 (planned)	(actual 12/1/79)
Cwr installation	Track miles	71.4	66.5	75	57
Cwr joint elimination	Welds	3,426	2,324	2,340	1,075
Insulated joint renewal	Joints	342	189	240	84
Wood tie renewal	Ties	215,886	231,056	200,000	167,206
Concrete tie installation	Track miles	—	41.4	121	108
Surfacing	Track miles	54.1	104.5	150	66
Shoulder ballast cleaning	Track miles	104.4	23.1	175	70
Undercutting	Track miles	39.1	53.6	40	21
Ditching	Track miles	—	33.3	154	11
Cost efficiency (percent of budgeted work accomplished divided by percent of budget expended)		45.8%	72.8%	100%	107%

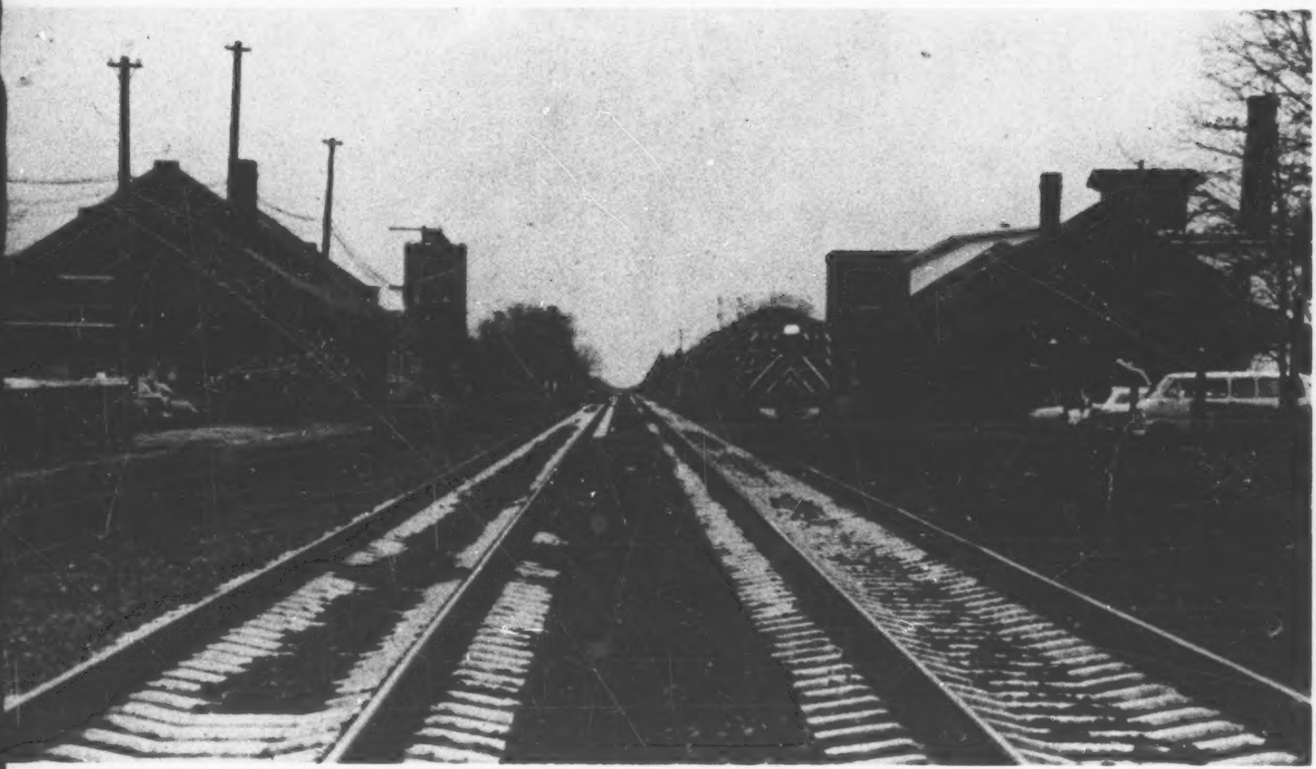
* "Work season" extends April 1 - March 31.

● **What fell out.** In order to keep the project within shouting range of the freshly reaffirmed redirection study total of $2.4 billion, several things simply had to give, including some big ones. The result of the agonizing adjustments was a package delivered (with the blessing of some friends from both houses of Congress) on an easy-to-remember anniversary—Dec. 7. It included:

—A DOT-sponsored bill, agreed by OMB to be "in accord with the Administration's program," amending the 4R Act of 1976 to increase the NECIP authorization to a total of $2.5 billion. Completion date for the FRA's role is changed from the original Feb. 5, 1981 to "five years from the enactment of this amendment" (presumably, early 1985) with any residual work to be Amtrak's responsibility. A goal of break-even operation of the Washington-Boston route within five years of completion is specifically established.

—A DOT-FRA letter reply (consistent with concurrent Amtrak responses) to the committee's specific questions, with appended line-item totals and comparative capsule descriptions of work to be accomplished under: 1) the original (and current) $1.75-billion program; 2) the redirection program of January 1979; and 3) the recommended $2.5-billion program.

Biggest casualty in the re-restructuring (see chart on page 27) is the long-planned conversion of the Washington-New York



The "new look" at Attleboro, Mass. Both main tracks are now cwr on concrete ties from Readville, Mass., to just north of Providence.

section of the NEC from its present 12-kV, 25-Hz to 25-kV, 60-Hz electrification. Leaving this conversion, considered essential if major increases in traffic are to be handled, to be accomplished by Amtrak on a "when required by demand" basis goes a long way toward meeting the fiscal constraints—but does it torpedo the whole corridor concept? Amtrak's rebuilt Metroliners and AEM-7-hauled Amfleet trains can make trip times equally well on either voltage and frequency if there aren't too many of them (and too many of Conrail's freights and everybody's commuter trains) drawing juice at any one time, assuming essential refurbishing of the aged catenary is carried out.

From a program standpoint, Lou Thompson sees at least three possible benefits from conversion deferral:

"First, we can go to school on the New Haven to Boston section and learn a lot more about 25 kV, 60 Hz before having to attack the conversion of what is, I believe, literally the most complex electrification in the world when you consider the multiplicity of users, the number of interlockings, and the four- and six-track sections.

"Secondly, the technology of solid-state voltage and frequency conversion is still moving ahead fairly fast, and it could well be that it will cost less to do some of these things in the late 1980s than it would now.

"A third advantage is that now, with enough time, we can get Amtrak and Conrail and UMTA and SEPTA and NJDOT together and take a longer-range look at the entire network south of New York, including what Conrail proposes to do between Harrisburg and Pittsburgh, and see what it is best to do on an overall basis, not just considering the needs of the corridor. We wanted to do this before, but there just wasn't time.

"Delaying the conversion will spread the effects on NJDOT and SEPTA equipment over a period of ten years or so, during which there will be normal overhaul cycles into which work can be fitted. It will also eliminate some arguable questions such as whether NJDOT's GG-1's could have possibly continued in service until the post-switchover era, making NECIP liable for financing their replacement."

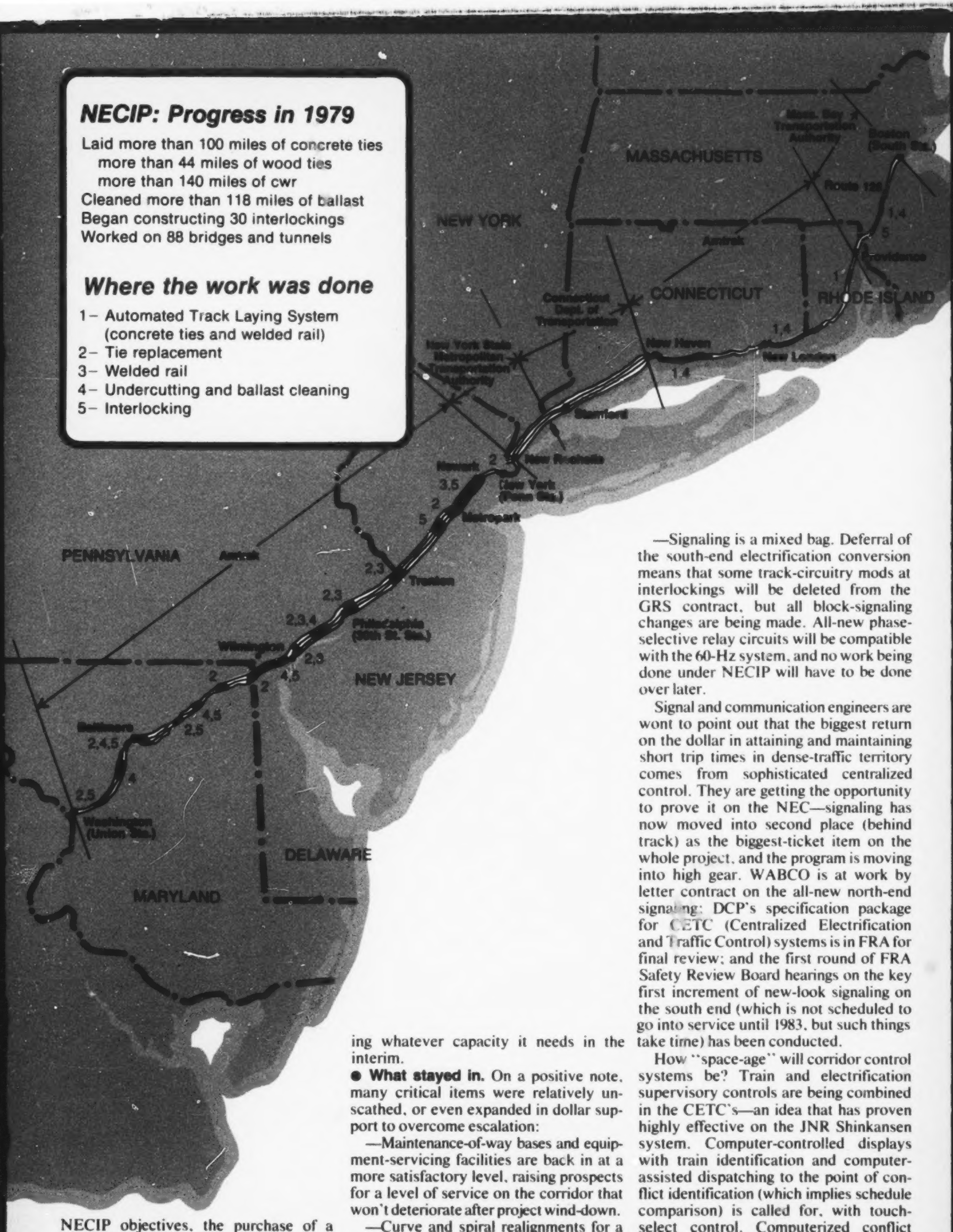
Another major deferral is in ballast shoulder cleaning and undercutting. It will remain at the level of the $1.75-billion program, rather than being increased (as in the redirection program) to eliminate virtually all deferred maintenance accrued during the pre-NECIP years. The result should be a line fully capable of speeds meeting trip-time goals at the completion of the program, though it would not be a completely renewed railroad which could get by with much less than the average amount of such cycle-maintenance work for the first few post-NECIP years. The rationale presented is that such maintenance is reasonably a responsibility of the owner-operator (Amtrak) and that it can well be adjusted at the time on the basis of traffic levels as they develop and included in Amtrak budgeting.

A generally similar philosophy has governed bridge, interlocking reconstruction or rehabilitation, crosstie, and rail programs. With minor changes, these return to the level of the $1.75-billion plan.

In the communications area, the story is surprisingly different. High leased-service costs for trunk traffic had suggested a saving in buying a microwave primary system as part of the redirection package. Currently exploding changes in technology—notably the potential of fiberoptic transmission for providing enormous message traffic capacity in a small cable with immunity to the worst electromagnetic environment the railroad can create along the right-of-way—have caused a quick change in strategy. Corridor message traffic density is low, but its use for ctc requires redundancy for reliability. An FRA study comparing coaxial cable, microwave, and fiberoptic options showed a clear advantage for the light beam, but also made it evident that Amtrak's right-of-way has suddenly acquired the potential for big and profitable piggybacking of common-carrier message traffic over any system meeting railroad needs. Since this commercialization was not germane to

NECIP programs compared

PROGRAM ELEMENT	CURRENT $1.75-BILLION PROGRAM	"REDIRECTION" (Jan. '79) $2.4-BILLION PROGRAM	RECOMMENDED (Dec. '79) $2.5-BILLION PROGRAM
Route realignments	**$41.9 million**	**$84.6 million**	**$63.2 million**
Spiral adjustments	None	34 curves	28 curves
Time-saving curves	5 curves*	6 curves	5 curves*
Bridge, interlocking or terminal approaches	5 curves*	16 curves	8 curves*
		* S-curves transferred to interlocking recognition	
Track structures	**$723.1 million**	**$722 million**	**$804.8 million**
Interlocking reconstructions	55	50	56
Interlocking rehabilitations	49	60	49
Concrete ties	420.9 miles	431.3 miles	420.9 miles
Wood ties	709,053	700,000	709,053
Relay rail	84 miles	95.2 miles	84 miles
New rail	201.7 miles	186.9 miles	201.7 miles
Undercutting	659.9 miles	773.6 miles	659.9 miles
Ballast cleaning	234.9 miles	519 miles	234.9 miles
Tunnel track rehabilitation	East River (2 tracks), North River, B&P (Baltimore)	East River (2 tracks), North River, B&P (Baltimore)	East River (2 tracks), North River, B&P (Baltimore)
Track (service facilities)	No m/w bases 2 service facilities	9 m/w bases 6 service facilities	5 m/w bases 6 service facilities
Bridges	**$271.4 million**	**$239.6 million**	**$271.5 million**
Replacements	17	29	17
Rehabilitations Amtrak)	184	155	184
Rehabilitations (FRA)	48	71	48
Electrification	**$113.8 million**	**$349.9 million**	**$307.4 million**
Washington-New Rochelle	Rehabilitate existing power supply system	Rehabilitate existing catenary system; convert power supply to 25 kV, 60 Hz	Rehabilitate existing power supply system
New Haven-Boston	No electrification	New 25-kV, 60-Hz catenary and power supply system	New 25-kV, 60-Hz catenary and power supply system
Signaling	**$182.1 million**	**$259.7 million**	**$323.1 million**
Washington-New Rochelle (multi-aspect, Wilmington-New York)	New system compatible with existing 12-kV, 25-Hz electrification	New system compatible with converted 25-kV, 60-Hz electrification	New system compatible with existing 12-kV, 25-Hz electrification
New Haven-Boston	Rehabilitate existing system	New system compatible with new electrification	New system compatible with new electrification
Communications	**$8.8 million**	**$33.6 million**	**$10.5 million**
M/w and operations radio base stations, mobile and portable radios	Procure and install	Procure and install	Procure and install
Communications transmission:			
Primary/secondary system	Lease	Procure and install	Lease
Tertiary system	Procure and install	Procure and install	Procure and install
Fencing	**$13.3 million**	**$46.6 million**	**$38.6 million**
Right-of-way	Mass., Del., Bronx Co. only	170.8 miles, plus service facility fencing	185 miles
Other	38 overhead bridges	125 overhead bridges, 4 access structures	201 overhead bridges
Grade crossings	**$16 million**	**$16 million**	**$16 million**
	(Post-FY 80 work not NECIP-funded)		
Stations: Operational/safety	**$21.7 million** Reduced-scope improvements to 7 stations	**$106.4 million** Improvements to 15 stations	**$119.4 million** Improvements to 15 stations
Stations: Nonoperational	**$23.7 million** Parking facilities only, at 4 stations	**$60.4 million** Improvements to 13 stations	**$72.1 million** Improvements to 15 stations
Service facilities	**$65.1 million**	**$159.9 million**	**$158.9 million**
Maintenance-of-way bases	No bases	9 bases	5 bases
Equipment facilities	4 facilities (reduced scope)	6 facilities	7 facilities
Tunnels - Civil work	**$19.6 million** B&P (Baltimore), North and East River tunnels (minor work only)	**$29.7 million** B&P, Union (Baltimore), North and East River, East Haven tunnels	**$33.2 million** B&P, Union (Baltimore), North and East River, East Haven tunnels (Minor scope reductions)
De Leuw, Cather/Parsons program management, systems engineering	**$202 million**	**$235 million**	**$226.7 million**
FRA program management, systems engineering	**$47.5 million**	**$60.6 million**	**$54.6 million**



NECIP: Progress in 1979

Laid more than 100 miles of concrete ties
more than 44 miles of wood ties
more than 140 miles of cwr
Cleaned more than 118 miles of ballast
Began constructing 30 interlockings
Worked on 88 bridges and tunnels

Where the work was done

1– Automated Track Laying System (concrete ties and welded rail)
2– Tie replacement
3– Welded rail
4– Undercutting and ballast cleaning
5– Interlocking

Mass. Bay Transportation Authority
Boston (South Sta.)
MASSACHUSETTS
Route 128
1,4
5
Providence
1
RHODE ISLAND
Amtrak
CONNECTICUT
Connecticut Dept. of Transportation
NEW YORK
New York State Metropolitan Transportation Authority
New Haven
1,4
New London
1,4
Stamford
New Rochelle
Newark
2
New York (Penn Sta.)
3,5
2
5
Metropark
PENNSYLVANIA
Amtrak
2,3
Trenton
2,3
2,3,4
Philadelphia (30th St. Sta.)
Wilmington
2,3
2
4,5
2
NEW JERSEY
Baltimore
2,4,5
4,5
2,5
4
2,5
Washington (Union Sta.)
DELAWARE
MARYLAND

NECIP objectives, the purchase of a primary communication system has been delegated to Amtrak, so it can exploit its suddenly attractive real estate while leasing whatever capacity it needs in the interim.

● **What stayed in.** On a positive note, many critical items were relatively unscathed, or even expanded in dollar support to overcome escalation:

—Maintenance-of-way bases and equipment-servicing facilities are back in at a more satisfactory level, raising prospects for a level of service on the corridor that won't deteriorate after project wind-down.

—Curve and spiral realignments for a more comfortable ride are back in—not on all the curves desired, but at least on the 28 judged most important.

—Signaling is a mixed bag. Deferral of the south-end electrification conversion means that some track-circuitry mods at interlockings will be deleted from the GRS contract, but all block-signaling changes are being made. All-new phase-selective relay circuits will be compatible with the 60-Hz system, and no work being done under NECIP will have to be done over later.

Signal and communication engineers are wont to point out that the biggest return on the dollar in attaining and maintaining short trip times in dense-traffic territory comes from sophisticated centralized control. They are getting the opportunity to prove it on the NEC—signaling has now moved into second place (behind track) as the biggest-ticket item on the whole project, and the program is moving into high gear. WABCO is at work by letter contract on the all-new north-end signaling; DCP's specification package for CETC (Centralized Electrification and Traffic Control) systems is in FRA for final review; and the first round of FRA Safety Review Board hearings on the key first increment of new-look signaling on the south end (which is not scheduled to go into service until 1983, but such things take time) has been conducted.

How "space-age" will corridor control systems be? Train and electrification supervisory controls are being combined in the CETC's—an idea that has proven highly effective on the JNR Shinkansen system. Computer-controlled displays with train identification and computer-assisted dispatching to the point of conflict identification (which implies schedule comparison) is called for, with touch-select control. Computerized conflict analysis and resolution, however, is to be a separately priced option in what is expected to be a highly competitive procurement. Centralized control will cover only the Washington-Wilmington and New Haven-Boston segments of the corridor, however. From the beginning, it has been apparent that the cost of converting all the interlockings in the central corridor for compatibility with remote supervisory control is beyond even NECIP's pocketbook.

Down the track, all traffic will be under automatic (including overspeed) train control. Home and distant wayside signals will be retained at all interlockings to avoid complete disruption of operations in the event of disabled ATC equipment on a train; with the frequency of junctions and crossovers on the corridor, this means that only about 20% of the wayside signals will disappear.

The New Haven-Boston electrification, with its implications in meeting north-end trip-time goals, is of course the single most significant reinstatement in the re-redirection program.

"The real intent of the project has not only survived—it is been reaffirmed," says Thompson in stepping back for an overview of the outcome of several traumatic months. "There is no overriding *federal* interest—in the sense of learning how and where we can establish effective, valuable, rail corridor operations—in whether that final 200 miles of undercutting gets done as part of NECIP or under Amtrak's normal maintenance operations. In terms of Amtrak's increasing capability, I think such shifts make sense, so long as we in FRA work together with them to see that they get the money. There is no need to set some arbitrary boundary around the scope of NECIP: it *is* crucial that we do state the point at which, and the areas in which, NECIP is going to get out of the business and leave it to its owners."

● **Death of a monster.** Another milestone of significance was a memorandum of understanding signed on March 6, 1979, which officially established working relationships among the organizations (FRA, its "Program Manager" DeLeuw, Cather/Parsons, and Amtrak) which had started out as components of what was well characterized as a "hydra-headed monster." The memorandum confirmed the vastly improved conditions that had been developing since the start of the redirection study about a year earlier. Also streamlined were such matters as the assignment of work packages to Amtrak, now handled as technical directions rather than as formal contract modifications. Amtrak is both allowed and required to stay within an agreed-upon budget by compensating for overruns in one area by reductions in others.

The organizations involved have undergone considerable internal realignments as well, but the most positive effects have undoubtedly come from a get-the-job-done spirit of cooperation that has pretty well erased the lines of distinction between individuals working for the principals. "There will always be quibbling about details in a project of this size and complexity, and I can guarantee that there will continue to be examples of balls being dropped and things falling into cracks (though I can also promise that the program management-systems engineering line item will *never* again be left out!)," says Lou Thompson. "With the spirit of cooperation we have now, the answer to a problem is to make a few phone calls and get things straightened out. I think the productivity of the 1979 work season confirms that things are really happening."

● **Keeping the patient alive.** "Most of the discrepancies between those early construction cost estimates and the ones we make now by establishing in detail everything that has to be done (and when it can be fitted into the schedule) come from doing the job under traffic," says Thompson. "The fact that the patient has to be kept alive during the operation has a profound effect on the complexity of the surgery, as we now fully appreciate."

How did the corridor survive 1979? As anticipated, on-time performance hit new lows during the height of the work season. Despite lengthened schedules and the annulment of four midday Metroliners, almost half of August's trains failed to meet the modest ICC criteria for on-time terminal arrival. As some of the track improvements began to make their effects known, the situation looked up with the coming of autumn, even though the open weather allowed track work to continue at a high level. Metroliner schedules were reinstated in the Oct. 28 timetable, and some slight schedule improvements were made.

Meanwhile, ridership on corridor routes, though not increasing at the rate of that on some other parts of the Amtrak system, did respond to ever-more-expensive (and occasionally scarce) gasoline. For the 1979 fiscal year ending Sept. 30, corridor passengers passed the 11-million mark which, in the projections used for the redirection study, was not expected until 1980.

There were major delays at times; a doubly difficult problem in keeping train delays within reason is accomplishing the renewal of trackwork in interlockings. As Amtrak's engineer for interlockings, Jim Quirk, points out, "Two segments of main line are tied up for the duration, whereas in track renewals it is possible to confine diversions to a single section between crossovers during most of the process." The 1979 interlocking renewal program was hampered by late arrival of the Geismar Panel Renewal System, which was not fully operational until late summer. Performance of the versatile, $860,000 PRS, which can set an entire No. 20 crossover in place in three prepaneled bites, has been excellent. A less elaborate SRS (Swedish Rail System) device is currently busy laying new track panels in the North (Hudson) River tunnels. Between midnight on Fridays and 6 a.m. Mondays, about 18 panels are installed by taking one track out of service. When the track renewal process (which includes cwr) in the bores is completed in about a year, the resulting return to 60 mph from the 30 mph of recent times will be one of the most obvious fruits of the NECIP as it speeds the rides of a maximum number of Amtrak and commuter passengers.

● **What about *this* year?** The 1980 program will find the TLS working on the south end, starting virtually in the shadow of the Capitol dome as it works its way northward. The outside-track-upgrading program of 1979 will help much of the time, and the undercutting situation will be far more favorable than in the two previous seasons; enough ballast work has been accomplished in advance to let the TLS do its thing in already prepared roadbed. On the north end, with its badly deteriorated roadbed, so many ties fell off the rail when it was lifted that the only practical sequence put the undercutter behind the TLS. On the south corridor, track conditions are now good enough to allow the tie renewal, undercutting, and surfacing systems to follow in close-order formation and confine their disruption to a single track segment most of the time.

On the other hand, traffic is many times heavier, public visibility will be at a maximum, and Amtrak people will undoubtedly "just have to take our lumps" early in the season when working on the bottleneck double-track sections south of Landover and between Bush River and Gunpowder.

To make the best of changing conditions, Amtrak plans to adjust corridor schedules quarterly rather than twice a year for the duration. On the north end, consideration is being given to a further increase in operating speeds on the new track; while they "won't be able to play it like a fiddle until they get the electrification and the new signals," the corridor builders are encouraging the operators to take full advantage of what has been done to improve the service now.

● **No dearth of challenges.** The harsh winter of 1978-79 left the corridor with more than 160 miles of slow orders following FRA inspections in the spring. Its growing capacity for overcoming adversity was demonstrated as Amtrak had removed 113 miles of them (including most of those on the high-speed tracks) by season's end. DCP engineers on the job peaked at 913 early in 1978, were down to about 700 by last October; Bechtel's augmentation of FRA manpower has dropped from 60 in mid-'78 to 30. Major track realignments ("where you build a new track on its own roadbed, connect up the end when it's ready") and interlocking reconfigurations that will actually let trains make better time will, for the first time, be part of the '80 season. The show is definitely on the road.

The first AEM-7 is scheduled to roll out Jan. 18 and be on the property a week or so later, to begin what should be a relatively short teething process before it starts running up and down the corridor and showing what it can do. FRA and Amtrak have had a number of independent consultants look at its design and construction, with the concensus that it should do what it is supposed to do and is the right vehicle for the job. "That's what they said about the TFX before it flew," remarks Lou Thompson. "We feel that this is one of the lowest-risk items on the project, but there's a lot riding on it, and as an engineer I'll feel a lot better about it after we've done it."

Yes, there are a lot of remaining items of far higher risk. If Congress has not taken action on the new authorization bill by late spring there will be slippages in some procurements. The four-track main line between New Rochelle and New Haven is not owned by Amtrak, which will remain dependent upon the state authorities for maintaining the track structure at its Class 5 level (and removing some current slow orders) if the contemplated corridor schedules are to be attained. Then there's that B&P tunnel bottleneck, which DOT proposes to alleviate by what may be the only fiscally feasible approach. Three sample sections will be refurbished this year to see if a slab floor and other minimal improvements will alleviate its clearance problems to some extent and raise the speed limits a bit while Conrail explores the matter of detouring some or most of its freights to competitor Chessie's route through the city.

Yes, the route ahead is far from straight, but those on the job should find it increasingly reassuring to be able to take an occasional backward glance and find the starting point for it all now actually receding in distance and not just in time. ■

Market

CARLOADINGS

Loadings of revenue freight in the week ended Dec. 15, 1979, totaled 467,551 cars, according to the Association of American Railroads. This was an increase of 5,816 cars, or 1.3%, compared with the corresponding week of 1978. Ton-miles generated by carloadings in the week ended Dec. 15 are estimated at 17.8 billion, an increase of 3.4% above the corresponding week of 1978.

REVENUE FREIGHT CARLOADINGS

Commodity	**Dec 15 week**
Grain	32,038
Farm products	5,052
Metallic ores	32,193
Coal	113,281
Crushed stone, gravel & sand	14,809
Nonmetallic minerals	14,348
Grain mill products	18,242
Food and kindred products	18,857
Primary forest products	21,446
Lumber & wood products (except furniture)	10,207
Pulp, paper & allied products	21,459
Chemicals & allied products	28,252
Petroleum products	6,621
Stone, clay & glass products	16,626
Coke	5,352
Metals & products	16,537
Motor vehicles & equipment	20,663
Waste & scrap materials	13,548
Forwarder & shipping assn. traffic	12,685
All other carloads	45,089
LCL traffic	246
Total cars loaded	**467,551**

	1979	**1978**
Cumulative total 50 weeks	**23,114,904**	**22,557,151**
Estimated revenue ton-miles (billions) 50 weeks	**872.8**	**827.1**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Dec. 8, 1979, totaled 37,025 cars (1.2% below the corresponding 1978 week) and 64,948 trailers or containers (up 0.5% from 1978). Cumulative volume for the first 49 weeks of 1979 is 1,761,892 (up 1.4% from 1978) and 3,108,638 trailers or containers (up 3.5% from 1978).

- *CN Rail.*—Capital expenditures planned for 1980 total $430 million (up from $322 million in 1979), including $121 million for equipment (up from $57 million). In 1980, CN Rail will acquire 40 diesel-electric units and 831 new freight cars, compared with 10 locomotives and 370 freight cars last year. Maintenance expenditures will also show increases, from $465 million to $540 million for equipment and from $281 million to $312 million for fixed plant. CN recently ordered 1,000 100-ton covered hopper cars from Marine Industries at a cost of approximately $55 million. Delivery is scheduled for 1981.

- *Conrail.*—Announced the signing of major contracts with two minority-owned businesses. A contract with GCL Corp. of Great Neck, N.Y., an Hispanic-American firm, calls for the purchase of 400,000 wooden ties each year for a five-year period, at a total estimated cost of $32 million. GCL will construct a tie-treating plant at Bethlehem, N.Y., to begin supplying Conrail's ties in the fall of 1980. A contract with Metcalfe Spike Works of Metcalfe, Miss., a subsidiary of Delta Enterprises, Inc., calls for purchase of 1,000 tons of spikes at a cost of about $600,000.

- *Freight cars and locomotives.*—The following report has been received from the AAR and ARCI:

DELIVERED

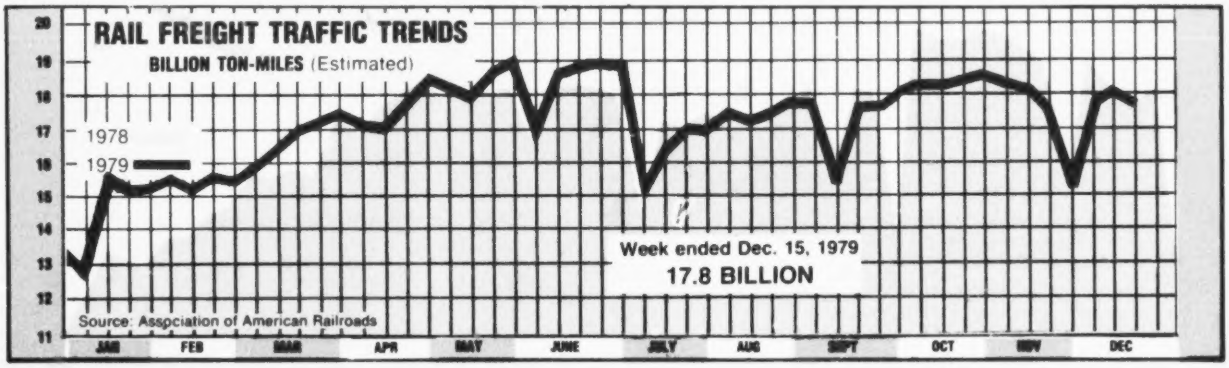
	November		**October**	**Eleven Months**	
	1979	**1978**	**1979**	**1979**	**1978**
Built new by carbuilders	7,971	6,461	7,758	75,976	56,316
Built new in RR shops	913	272	349	5,382	4,140
Built new - total	8,884	6,733	8,107	81,358	60,456
Rebuilt	54	23	96	1,666	1,321
TOTAL DELIVERED	**8,938**	**6,756**	**8,203**	**83,024**	**61,777**
Locomotives (new and rebuilt)	168	172	183	1,732	1,196

ORDERED

To be built new by carbuilders	7,890	8,302	6,129	101,351	112,577
To be built new in RR shops	768	500	0	5,231	3,434
To be built new - total	8,658	8,802	6,129	106,582	116,011
To be rebuilt	54	16	95	949	138
TOTAL ORDERED	**8,712**	**8,818**	**6,224**	**107,531**	**116,149**

ON ORDER AND UNDELIVERED

	December 1		**November**	**Average backlog**	
	1979	**1978**	**1979**	**1979**	**1978**
To be built new by carbuilders	113,797	86,059	117,422	113,750	60,705
To be built new in RR shops	6,160	5,714	6,305	6,341	5,431
To be built new - total	119,957	91,773	123,727	120,091	66,136
To be rebuilt	170	93	170	121	467
TOTAL ON ORDER	**120,127**	**91,866**	**123,897**	**120,212**	**66,603**
Locomotives (new and rebuilt)	656	836	774	969	754



SPECIAL REPORT

January 28, 1980

RAILWAY AGE

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The outlook for 1980
A review of 1979

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Inside

LUTHER S. MILLER

THE AFGHANISTAN FACTOR

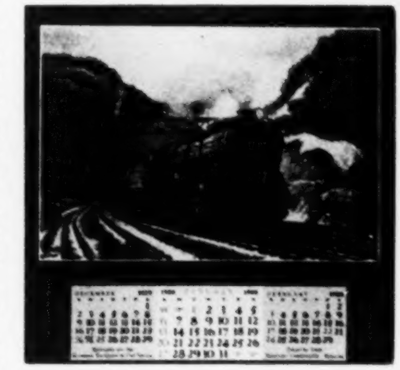
Afghanistan for many years has been the only major country in the world without a railroad—a deprivation that has made it easy for us, the nature of our business being what it is, to ignore this Texas-sized land of shepherds, carpet weavers and truck drivers. But no longer. Since Christmas day, 1979, when the first Soviet troops moved across the Afghan frontier, it has been necessary to add "the Afghanistan factor" to that long list of imponderables that will determine the immediate future of railroading in the U.S. This is because President Carter has embargoed all grain shipments to the Soviet Union not covered by our trade pact with that country, a move that could cost the railroads a chunk of export traffic and could affect orders for covered hoppers. Resumption of the cold war has also cut off the exchange of technology between U.S. and Soviet railways when it was just starting to get up a head of steam. The implications for railroads of this shift in foreign policy are discussed by Associate Editor Tom Kizzia in Watching Washington (p. 14).

The Afghanistan factor notwithstanding, *Railway Age*—in this Annual Review & Outlook issue—sees for both railroads and railroad suppliers another year of relative prosperity, though 1980 may not measure up to 1979 in all ways. A slight traffic decline is expected in the first half, and costs that often rise faster than rates will continue to put pressure on earnings. "But it is still going to be a very good year compared with any other recent year except 1979," AAR President William H. Dempsey recently observed in an interview with *Railway Age*. The long-range optimism of the railroads and of private investors in railroad equipment is underscored by forecasts that in 1980 the carbuilders will deliver an estimated 85,000 freight cars and the locomotive manufacturers around 1,900 diesel-electric units.

Our 1980 outlook articles start on p. 30. The 1979 review section starts on p. 56; this year it includes an expanded statistical section that charts the course of railroading in the '70s.

A NEW PENNSYLVANIA RAILROAD CALENDAR

As a commercial artist with the Osborne Calendar Co. of Clifton, N.J., Grif Teller painted the pictures for 27 of the 34 calendars that the Pennsylvania Railroad distributed between 1925 and 1958. The Pennsy is long since dead, but Grif Teller lives and has lost none of his flair for capturing the spirit of railroading on canvas, as Ken Murry discovered when he persuaded Teller, who turned 80 last Dec. 9, to paint one more Pennsylvania Railroad calendar. Murry, an industrial photographer for Armstrong Cork who is a railroad historian on the side, has now published a 1980 calendar with the new painting, showing a K4 steamer pulling a passenger train around Horseshoe Curve.

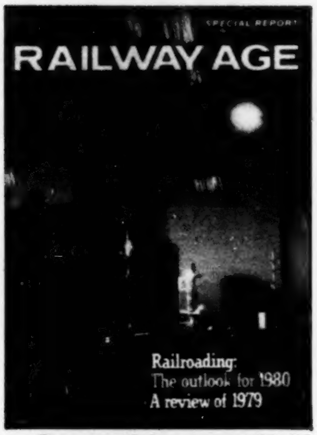


Of the dozen or so calendars that have come to our desk in recent weeks, this is the one that has gone up on the wall. You can buy it from hobby shops or by writing to Grif Teller Calendar, P.O. Box 1980, Mountville, Pa. 17554.

RAILWAY AGE

January 28, 1980

FEATURES



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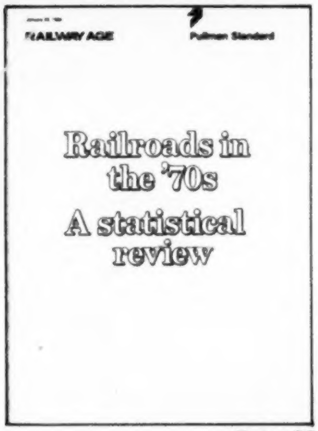

Railroads in the '70s

A statistical review

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COVER: Southern's minicomputer-controlled yard at Sheffield, Ala., was photographed by Southern System Photographer Howard Olmsted.

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Coal traffic will be relatively strong in '80, but production has not been increasing as rapidly as earlier forecasts indicated.

Traffic down, spending up

By GUS WELTY, Senior Editor

If railroads were athletes running windsprints, their recent performance and their long-range outlook could be summed up simply: Go flat-out. . .pause. . .go flat-out once again.

In 1978 and '79, railroads were indeed going flat-out. Each year saw record highs in revenue ton-miles, along with increases in carloadings. TOFC/COFC volume set a record in '78 and another in '79. Last year, thanks to increases in both traffic and rates, there was even a significant improvement in the industry's financial performance.

Now, after a two-year sprint, comes time for a pause—though not one dictated, in this case, by an inability on the industry's part to continue going flat-out.

When does the next sprint start? Some guess late-1980. Some guess 1981. But few doubt that it *will* start.

● The view from now. At this point, these are the prospects for 1980 and beyond:

—Rail freight traffic will be down at least for the first half of 1980, with current estimates running 4.5% to 5%. With the automobile industry in a slump, with housebuilding rates sagging, with foreign policy and international events playing hob with grain exports, and with coal production not increasing as rapidly as expected, the decline could be even steeper.

—Despite the pause in traffic development, railroads are still forecasting increases in 1980 in spending for improvements as well as for maintaining equipment and plant already in place. A *Railway Age* survey of major roads shows planned increases in capital expenditures that may approach 15%, a figure only slightly higher than the one arrived at in a U.S. Department of Commerce projection released earlier in January.

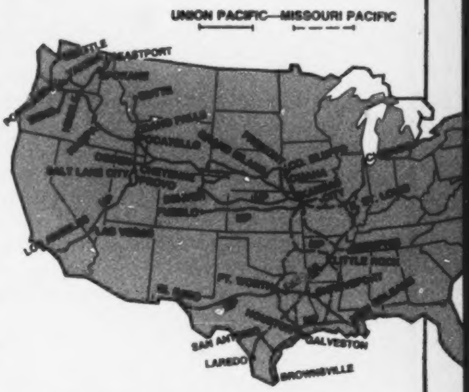
—For the railway supply industry, these numbers should produce another high-volume year, with deliveries of both freight cars and locomotives approaching the peak levels of 1979. For '79, the totals for installation of new and rebuilt equipment approximated 90,000 freight cars and 1,900 locomotive units, with nonrailroad purchasers accounting for about two-thirds of the freight car acquisitions. Carbuilders expect some decline in deliveries in 1980, but the *RA* survey seems to indicate that if there is to be a drop, it will come in that sizable nonrailroad sector and not from the railroads themselves.

—Again in 1980, the railroad industry should benefit from relatively quiet times in management-labor relations. This is the third year of a three-year (actually 39-month) agreement that was made effective Jan. 1, 1978, and negotiations on a new contract are not scheduled to begin until 1981.

—On the other hand, "quiet times" may hardly be an appropriate phrase to apply to railroad-government relations, although with everything else that will be going on in Washington it remains to be seen how interested the Administration and the Congress will be in railroad matters. At this point, the Administration still seems committed to some form of railroad deregulation; the Senate seems likely to resume the efforts that produced committee approval of a deregulation bill late last year; and the House seems ready to start moving on legislation that could approach the industry on an even broader basis. As an industry, railroads found it possible to support the Senate bill, but their enthusiasm was not overwhelming. Serious concern remains that Congress will yield to utility and consumer pressure by putting tight restrictions on ratemaking for coal traffic, and, in broader terms, there appears to be a feeling that what started out as an effort to provide the industry with greater freedom and flexibility in many areas—the whole deregulation process—may turn out to be something else again. Thus, in some quarters, questions are being raised as to whether the industry's legislative thrust should again be concentrated on matters involving competitive equality with other modes of transportation.

—Finally, in the broadest sense, both the near- and the long-term future (and, certainly, not just of the railroad industry) will depend upon government's controlling events rather than being controlled by them. On this score, even dyed-in-the-wool optimists find little to cheer about. The economy, for example, shows signs of doing again what traditional economists thought it could never do for the first time—repeating 1974-75, with high inflation and deep recession running concurrently. The international scene, meanwhile, is in turmoil; some observers see a return to the dimly re-

Restructuring: Power plays in the West



UP-MP combination would give UP access to the Gulf Coast, plus entry to such cities as Chicago, Memphis, and St. Louis.

The Rand, McNally map of the U.S. railroad system, circa 1980, may turn out to be a collector's item by 1990, if not before. Change—significant change—finally is coming.

Historians, sometime off in the future, may not agree on what triggered the current wave of proposed consolidations, just as observers today can't agree as to whether what's happening is what ought to be happening. But off in the future when historians get together, the word "Tucumcari" may well lead off their discussions.

Thus far in the second half of the 20th century, restructuring of railroads in the West has lagged. Burlington Northern was created through merger in 1970, but elsewhere Union Pacific didn't take Rock Island; nobody got Western Pacific, though Santa Fe and Southern Pacific tried; and not much else happened, either.

Then came Tucumcari—the name for the Rock Island line between an SP connection in New Mexico and Kansas City-St. Louis: SP coveted it, made bankrupt Rock Island an offer, and the line seemed increasingly likely to wind up in SP's hands.

Meantime, the proposal to merge Burlington Northern with Frisco also came along, but it didn't seem to carry the same import for railroad competition in the West. Tucumcari, on the other hand, had import—impact—as some saw it.

- **A big one, followed by...** Then along came Union Pacific-Missouri Pacific—and the likelihood that if Tucumcari wouldn't forever change the shape of things in the West, UP-MP would.

There was action, too, in the eastern one-third of the nation as the 1970s ended: Grand Trunk Western had won ICC approval for expansion, and Seaboard Coast Line Industries (after rebuffing Southern Pacific) had gone before the ICC along with Chessie System with a consolidation proposal. Still, the West was the attention-getter. GTW, after all, was mainly looking to a regional growth, and observers wondered if Seaboard-Chessie would ever come off, especially in view of the demands Southern and Norfolk & Western were making before the commission. What was happening in the West involved "major powers" and had more far-reaching implications.

To an extent, bankruptcy—until the mid-'70s something confined to the East—was having its effects in the West, in terms of the proposed reorganizations of Milwaukee Road and Rock Island, reorganizations that would likely cut each down in size as other roads picked up some pieces and other pieces were torn up. Except for the Tucumcari effect, though, the bankruptcies were likely, mainly, to have a *mid*western effect, one concentrated in farm-belt territory. Tucumcari and UP-MP were different—and they raised a host of questions.

What the Tucumcari line would give SP was a competitive route between the West Coast and Kansas City-St Louis, an entry into Kansas City, and a route into St. Louis about 400 miles shorter than the SP-Cotton Belt line. What UP-MP would provide was access to the Gulf Coast for UP (which was to be the acquirer) plus entry to such points as Chicago, Memphis, New Orleans, and St. Louis—the last perhaps the most important, at least to those who see St. Louis becoming the greatest of all mid-continent gateways in the future.

Observers were asking a lot of questions: With SP into Kansas City and into St. Louis on a better route, and with UP going to the Gulf as well as to gateways farther east than Omaha and Kansas City, where would that leave Santa Fe? If UP suddenly acquired capability for single-line service into St. Louis and Chicago, what about Chicago & North Western (which had gone from being a competitor of UP in the old Rock Island merger case to being UP's biggest connection on traffic to and from Chicago)? What about Denver & Rio Grande Western? What about the north-south lines, Kansas City Southern, Illinois Central Gulf, Katy?

To go further, what about railroad-government relationships? If, as seemed possible, C&NW could suffer from a UP-MP combination, what about FRA's heavy assistance "investment" in North Western, funds that have largely been spent in turning C&NW's line between Chicago and its major UP interchange into a first class piece of railroad? What about government's sometimes-expressed desire that, in any western restructuring, the "have" roads should find a place for the "have-nots"?

- **A great silence.** At the outset, following the UP-MP announcement, neither other railroads nor government officials had much to say for the record (not surprising, perhaps, since UP-MP came to light only after the parties had reached an agreement and not at the time their studies began). But it seemed clear that other roads' options were dwindling in number, with Frisco and MoPac spoken for; as for government, it had to be searching for its hole card.

Speculation—and it was only that—had to do with a number of things. One, concerning the Far West, was that Santa Fe or Santa Fe and SP together in some way would wind up with Rio Grande.

Another was that it might be time for somebody to break the midcontinent barrier (as SP had tried to do in its approach to Seaboard), and there was conjecture as to whether the remaining nonaligned western major would sometime be talking with Norfolk & Western (which reaches Chicago, Kansas City, and St. Louis).

As for government, it has reason to be concerned about the future of marginal and close to marginal roads, especially those it has aided. But realistically, government also has to know that healthy roads are going to prefer merger with healthy partners. At least one proposed merger, so it's said, never came to anything in good part because of the out-of-line labor costs of the lesser of the two potential partners and because of a government approach that said, in effect, that the greater of the two would have to go along with the handicaps of the lesser.

The Interstate Commerce Commission, of course, will have the final say on what happens (ICC and, probably, the court system in some cases). It might be worth noting, in connection with merger as well as with other railroad-related matters, that today's commission is a different one—one that has given at least a preliminary indication that it may be less concerned with protection and more concerned with helping to form a more competitive industry that can provide better service at lower cost. That approach—followed through and upheld if challenged—could have implications both for railroads that are not initially a part of major change proposals and for labor organizations that demand (as in the case of Conrail) not only protection until retirement for adversely affected employees but also adoption of most-restrictive provisions of existing contracts in cases where one road acquires all or pieces of another.

Washington: "The albatross of competitive inequity..."

Outside of the broad and murky area of deregulation, what is the single most vexing problem facing the railroads as they roll into the '80s? *Railway Age* put the question to William H. Dempsey, president and chief executive officer of the Association of American Railroads, and Richard E. Briggs, the AAR's executive vice president.

Said Dempsey: "The biggest single albatross that we have hung around our neck is that of competitive inequity. The way in which both state and federal governments have developed transportation policy confers artificial and very significant advantages on our competitors. If I had to pick out one thing that we could correct in 1980—if I could take care of only one problem—resolving the problem of competitive equity would satisfy me for the next 10 years."

W.H. Dempsey, President, AAR

Is some progress being made?

"Yes. I think the public is becoming acutely aware of what the heavy trucks are doing to the highway system. All you have to do is drive along a highway and watch the heavy trucks rumble by," said Dempsey.

"There's a lot of talk about deferred maintenance on the railroads—but when you look at the deferred maintenance on the highway system and the state bridge system, it's astronomical. Our state highway departments and state governments are beginning to be deeply concerned.

"Then there's the matter of the grossly negligent enforcement of laws. Incredible statistics have come to light in just the last year about the percentage of trucks that are discovered in spot inspections to have serious safety flaws, and the large number of trucks that are overweight."

What would the AAR like to see done to correct the situation?

"First, there are the enormous subsidies that are going to both the highway and the barge carriers, and that has got to be rectified. The precise mechanism for rectifying it, in terms of user taxes and gasoline taxes, must be carefully worked out. It's all very complex, and if you aren't careful you can make some terrible mistakes. You can extract money out of the highway users, but by virtue of the formula you use, whether it's a tax on fuel or whatever, you can wind up imposing the greater share of that burden on the light trucks and the passenger cars.

"As for enforcement, the issues are different in each state; again, it's a complex problem. But we *do* have an extraordinary network of railroad safety regulations and they *are* intensively enforced. Certainly the laws and regulations applying to our competitors ought to be enforced no less vigorously."

Briggs agrees that "we're coming closer to dealing with the equity problems."

"Any good answer with respect to user charges is going to have to be phased in, and it's a long way down the road," says Briggs. "The encouraging thing is that the states *are* being forced to face the problem of user charges. They are seeing a drastic increase in maintenance costs. They are seeing rampant inflation, which means that the maintenance for which they are responsible is going to take many more dollars. Gasoline consumption per mile of travel (and per mile of damage) is going down, because of more fuel-efficient engines; at the same time, usage is not increasing as anticipated. The result is extremely harsh upward pressures on costs and downward pressures on receipts."

As for deregulation of railroads at the federal level, both Dempsey and Briggs are less optimistic today than they were a year ago that substantive relief is going to come quickly. Dempsey points out that what began as a well-defined and straightforward drive to relieve the railroads of some of their regulatory burdens has now taken some strange bypaths that sometimes lose sight of the original goal. Late in 1979, for example, there was an effort to inject a coal-rate-ceiling provision into a Senate Commerce Committee "consensus" deregulation bill—a bill that was already, as far as the railroads were concerned, close to the borderline of unacceptability. Recently there has been talk in the House Commerce Committee of an omnibus bill. Dempsey fears that such an approach could load so much additional freight onto a deregulation bill that the measure might sink.

Briggs points out that while the legislative road to regulatory reform has so far led to nowhere, help *has* come from the regulators themselves. "Perhaps the most unexpected development last year," says Briggs, "was the depth and breadth of ICC actions in reducing regulation. ICC Chairman Dan O'Neal said months ago that he would move in this direction, but very few people felt the commission would go as far and as fast as it in fact did.

"So while we ran into problems achieving our goals by legislation, the commission has covered at least part of the space between where we were and where we ought to be. Hopefully, that will continue."

Dempsey emphasizes that what the railroads want is the opportunity to let the marketplace—and not artificial constraints—determine the future course of common-carrier freight transportation:

R.E. Briggs, Executive Vice President, AAR

"I think one of the most notable aspects of our deregulation program is that we didn't ask for any money.

"The appropriate public policy is the one that is supposed to be reflected in the 4R Act—namely, that the national transportation policy ought to be fashioned in such a way that goods are transported in what is inherently the most efficient way, and the government ought not to interfere with the marketplace except in extraordinary circumstances. In the Northeast the government couldn't let the rail system collapse in a pile of junk. But we are certainly opposed to any long-range solution in the Northeast that would involve pouring huge sums of additional money into that system. We have taken the same position with respect to the Milwaukee and Rock Island. We think that what's good enough for the railroad system, in terms of letting the marketplace work, ought to be good enough for our competitors."

membered days of Cold War tensions; others simply wonder if a shredded foreign policy can be patched back together. Overlaying or underlying all of this, of course, is the fact that 1980 is an election year, with all that this usually means for those in power: To put it bluntly, a *little* international tension seldom hurts, if the incumbents seem to be able to cope with it—but a rending of the domestic economy can be politically disastrous, especially with memories of 1974-75 so fresh.

● **The ICC factor.** All this leaves one major aspect of the outlook to be considered, and that is the Interstate Commerce Commission, the agency that (with the possible exception of the Federal Railroad Administration) has the most day-in, day-out impact upon the industry, and the single agency with direct make-or-break power over it.

In 1980, ICC *could* be a more positive force than it has been for years, for a couple of reasons. First, this is a relatively young commission in terms of its members' length of service, and it has already demonstrated a willingness to rethink old problems. Second, the whole debate over deregulation, coupled with continuing criticism of ICC's handling of 4R Act regulatory reform, may have had a salubrious effect in nudging the commission as a whole in the direction of a more liberal appoach.

Specifics can be cited, starting a while back, when the ICC decided that its old position on contract rates was in fact wrong and that railroads and customers could indeed enter into such agreements. Then, the commission in effect deregulated rail transportation of perishables, thus allowing railroads to compete with truckers in a market where the rail share, under past competitive restrictions, had dropped to less than 10%; perhaps the results—a sharp increase in rail handling of perishables, especially in piggyback service—gave encouragement, because ICC next began looking at a broad deregulation of TOFC/COFC itself as a means of promoting greater use of this flexible, fuel-efficient type of intermodal operation.

Since the 4R Act set time limits for the handling of rail consolidation proceedings, perhaps the commission doesn't deserve a whole lot of credit directly for the way it has kept several such cases moving. But ICC can be given credit for action in several other areas with even broader impact on the industry. One example: the commission's decision to take another look at its role in laying down and enforcing car service rules. Another example: ICC's willingness to consider whether, a decade or so ago, it made a bad move when it laid incentives on top of basic car hire rates.

● **Under fire, no fall-back.** In each case, there may have been more than pure altruism at work. The commission had been under fire for creating far more problems than it solved in the car service area, and its continuation of incentive per diem was clearly creating a bad financial situation for the railroads even as it was (and had been) failing to accomplish its intended purpose. Nevertheless, in olden days railroads might have expected little more than a perfunctory hearing from a commission that would decline to admit it could err—while this time around, the ICC seems serious in its attempt to resolve serious issues.

As for the Department of Transportation and, specifically, the Federal Railroad Adminitration, positive and negative factors may be a little less obvious. Cooperative programs dealing with technological matters on the whole get decent marks; those programs involving financial assistance can in some respects be questioned.

Similar question marks dot FRA's approach to safety, especially in the area of safety standards. On the one hand, for example, newly formulated freight car standards seem to recognize that inspection requirements under the old standards were somewhat out of touch with the real world in terms of what is really needed to maintain a safe operation. On the other hand, FRA's new intentions regarding track safety standards appear to be a move in the opposite direction, away from real-world consideration, especially as concerns permissable train speeds and the close linkage between speed and weight of rail in track. FRA, in short, remains something of an enigma—an assessment that at least some within the agency would not deny.

● **The energy squeeze.** When you look at government policy and its impact upon railroads and all transportation, however, all else pales when it's put alongside energy policy. Two aspects of that policy (perceived policy, as it were) seem to loom largest. One has to do with conservation of scarce resources, the other with use of available resources.

Just about every move by the Organization of Petroleum Exporting Countries seems to point to higher and higher prices coupled with the kinds of limits on production that will sustain those prices. Railroads and motor carriers are probably the largest users of diesel fuel, among freight haulers. Railroads, probably, make far more efficient use of fuel. Yet, with just an exception or two—one being the ICC's look at deregulation of TOFC/COFC operations—government appears to have taken no cognizance of the efficiency factors. Railroads last year found themselves for a time on the short end of fuel allocations; even after allocation changes were made, railroads found themselves short-ended on pass-through of fuel cost increases, with motor carriers allegedly getting a better deal with less bureaucratic delay.

For their part, railroads were trying to conserve, cutting down on waste and making closer matches between power and tonnage (sometimes at some cost in service). But government seemed blind to railroad efficiency, reluctant to do much to steer traffic to the most fuel efficient mode—and it's not clear what the future holds. One forecast is that gasoline prices may hit $2 per gallon by the end of the year, with concomitant increases in the price of diesel fuel, which should make it even more desirable that traffic—freight and passenger—move via the most efficient way. Still, government's response is less than encouraging.

By virtually every estimate, there is enough coal in the ground, while policymakers go blue-skying in the direction of technologies (among them synthetic fuels and solar power) that can't be either economically attractive or productively adequate for many, many years (if ever, some would add).

Meantime, railroads—in the West in particular—have invested tens of millions of dollars in track, motive power, freight cars, signaling, and so forth, on the premise that the coal would begin to move in the volumes anticipated and on the schedules predicted. It hasn't. Nor have coal-fired utility plants come on stream as forecast, nor has there been an effective push from government for conversion of oil- or gas-fired industrial plants to coal. One result has been that analysts have become bearish on coal stocks, looking at coal as a surplus commodity for the next three to five years and questioning the wisdom of the railroad investments.

The end result has been that awaited growth is still awaited, at least in the proportions contemplated in original Administration planning for coal's growth. Rates play a part in the overall equation, of course, and more and more attention is being paid to the delivered price of the coal that's to be mined. But, more and more, rail rates—a contributor to that delivered price—are coming to be better-known factors, while the price of oil and the price of gas remain unknown or less well-known, and the price of new technology remains completely unknown.

It's not likely that a comprehensive energy policy will come through in 1980, let alone a comprehensive economic policy. Presidential election years tend to be like that, in terms of policy development—and this time around there is the chance that an incumbent President could even

Labor: All's quiet—at least until '81

This year, 1980, is the last full year of a 39-month management-labor agreement covering most of the railroad industry. Therefore, 1980 ought to be a year much like most of 1979—a year of peace. It probably will be—except, perhaps, that this will also be the year in which both rail management and the rail labor organizations decide what they will go for in 1981, in negotiations that can begin soon after the serving of contract-change notices, about next Jan. 1.

Under the existing agreement, employees have not fared badly, despite inflation: Average annual earnings per employee rose in 1979 to an estimated $22,600, as the industry's total payroll climbed to more than $11 billion; by the end of the 39 months early in 1981, employees will have received four increases in basic wage rates (including a 5% increase coming due next July 1) and seven cost-of-living adjustments, all of this making up a package that was estimated to result in an overall percentage increase in the mid-to-high-30s.

What comes next? With inflation still running unchecked, it would be naive to expect that the organizations will settle for anything less than make-whole-protection-plus, and the initial demands are certain to be for a lot more. The last time around, labor came in demanding 15% per year. At the same time, labor can also be expected to develop new demands for improving an already handsome package of fringe benefits.

● **Recession—and rules.** If, somehow, inflation could be brought under control, those demands and the size of the eventual settlement might be reduced somewhat, but that's a big "if" as well as a big "might." At the same time, however, a recession-plagued 1980 could stiffen the industry's back—perhaps even the government's—and make tough negotiations even tougher.

As almost always, there is the matter of work rules, especially those rules involving the operating crafts. Railroads went into bargaining in 1977 expressing determination to win concessions on rules, but labor dug in, the determination faded, and the only major changes since then are changes that have been made on individual roads.

At this point, it's difficult to say how hard the industry may push for change the next time around. Those who are most optimistic about the industry's ability to rebound from recession point out that work rules are less of a problem in an expanding industry. Those who despair of the industry's ability to ever win change at the industry level see locally negotiated change as the main (if not only) hope. Even the most hopeful of observers see change, however negotiated, as being a long, slow, and painful process, with dividends long in coming.

Labor itself could, however, change the outlook if a couple of things (neither perhaps probable, but either possible) were to come to pass. One such possibility is that new leadership at the United Transportation Union will take a more realistic look at the rules and their impact upon rail operations and service, and decide that change can be made to happen (with, of course, appropriate protection for present employees). A second outside possibility, as some see it, is that the non-operating organizations may come to the realization that they, along with the railroads, are paying for the ops' refusal to change. According to this theory, once the non-ops realize that money saved on the operating-transportation side would likely be plowed back into stepped-up equipment and track maintenance and rehabilitation—with resulting employment increases in the non-op area—then the non-ops might persuade themselves to bring pressure to bear.

● **As for "new" systems...** While management and labor use 1980 as a launch pad for '81, 1980 may itself become a significant year in terms of the labor aspects of railroad restructuring. The situation is this: During '80, both western bankrupts may make long strides toward the kind of reorganization that will involve substantial cutbacks from the size of the systems they now operate. When this happens, some non-core lines will be acquired by other roads, but some will simply be abandoned. Either way, employment requirements will drop.

While rail labor may demand Conrail-type protection for affected employees, it has become clear that the Conrail solution is no solution—as a recent report by the comptroller general's office makes abundantly clear. Among the report's findings: The $250-million protective fund authorized under the Regional Rail Reorganization Act is gone, but the law requires that payments to adversely affected employees continue, and estimates of the eventual cost run from $884 million to $1.7 billion (though the General Accounting Office says it lacks confidence in these estimates and calls for new ones to be made). One big factor in the overrun: While other federally funded protection plans limit protection to six years, the 3R Act gives eligible employees protection to age 65. GAO, not surprisingly, recommends that the law be changed—and that recommendation is one thing rail labor may be up against when future restructurings take place.

be denied renomination by his party (which would leave a lame duck Administration in power, with lessened power in its dealings with Congress, from summer until next January).

● **Railroads: Steady ahead.** What railroads seem to be planning for 1980, however, is a steady slogging ahead. No spectacular breakthroughs, perhaps, but the kind of approach made famous when Grant took Richmond—which is to say, do the job, apply the pressure, wear the opposition down, take heavy casualties but win.

This leaves the industry with a forecast that traffic for the year will be down—though, in ton-mile terms, traffic should still be at levels that will make 1980 the second or third or fourth "best" year on record. It also leaves the industry with a forecast that railroads will be doing a lot more than many other industries in terms of self-improvement: If railroads cut back on capital-spending plans to any significant extent, it will be because the bottom has absolutely dropped out of the economy, and that is something not likely to happen.

In some ways, '80 may be a year of transition, for the nation in general and the transportation industry in particular—so the real questions may concern what happens in 1981, after the elections, after the impact of recent OPEC actions is felt, and after (for railroads, specifically) new labor agreements are negotiated.

As it happened, '80 started strongly so far as rail traffic is concerned, more strongly than might have been expected. As it happened, too, every time the economists announce that recession is here, some agency releases figures that deny it. Based upon announced plans for both capital and maintenance spending this year, there are few indications that railroads are pulling back at all, let alone in a major way.

For a number of years, railroads have been among the nation's leaders in terms of spending for improvement (as reflected in part by the consistent excess of capital expenditures over retained funds). At this time next year, the betting is that the same showing will have been made in 1980.

Outlook for 1980

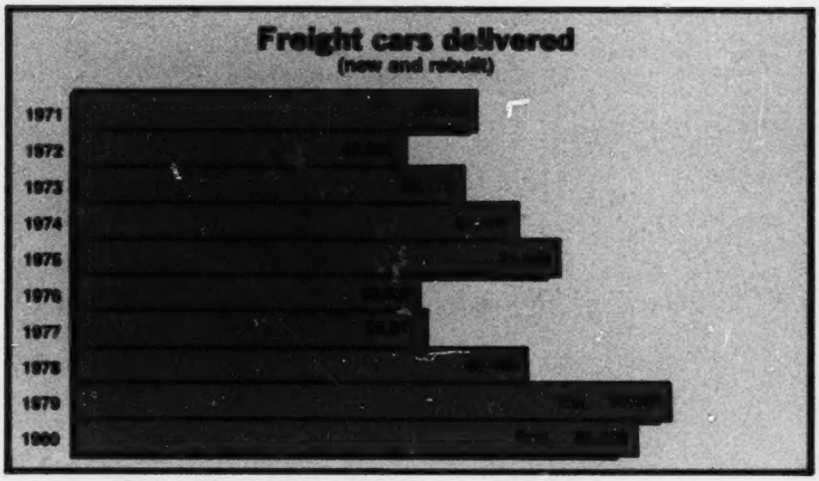
Freight cars: A fat backlog insures another good year

If a market can be both stable and volatile at the same time, then the railroad freight car market is just that.

It's stable in the sense that backlogs have remained high, even in the face of high levels of deliveries. Today, the backlog of cars on order and undelivered still stands at about 15 months' production, even with old and new carbuilders and assemblers working at or near capacity. Even if recession brings cancellations, most observers expect the shakeout to cut backlogs down no farther than to levels that would amount to a year's production.

The freight car market is also volatile, in the sense that nonrailroad interests make up such a big part of it—roughly two-thirds in terms of 1979 orders and deliveries and 1980 backlog. While part of this nonrail activity is rail-related (Trailer Train and Railbox), a good part of it isn't, and some of the outsiders have been faring less well recently as railroads began to add up the cost of using "outsider" cars subject to incentive per diem and found that cost prohibitive. As a result of their cost findings, railroads have asked the Interstate Commerce Commission to wipe out IPD on all cars (boxcars and gondolas). Some outside investors, meanwhile, have cancelled orders even as other outsiders were announcing new programs. Earlier this month, the U.S. Department of Justice got into the act, with indications that it would investigate allegations of conspiracy in connection with railroad ownership and use of boxcars (though nobody was stepping forward to take credit for setting DOJ out on its probe).

The outlook for 1981 has some builders just a bit concerned: As one puts it, "I am not comfortable with the 1981 backlog outlook." While peak-and-valley ordering will likely continue in the freight car business, the definitions will be different: "Valley" once meant a drop down to around 40,000 orders or even 30,000, but orders in 1980—barring a recession of really disastrous proportions—will probably run plus-or-minus 65,000.



- **What's coming up?** These things might be said about the new-order outlook:

—Plain, 50-foot boxcars of the type being acquired by Railbox and the outside investors interested in IPD are coming to be a glut on the market. Acquisitions have been based upon IPD (in addition to basic car hire income) which the cars could earn while off-line, not on the sort of market demand IPD was meant to respond to. No matter what happens, with either ICC's restudy of IPD or with whatever it is the Justice Department has in mind, boxcar orders will be out of style.

—Covered hopper car orders ought to keep coming, although government policy on grain exports to the USSR is bound to have some impact. Optimistic thinking has it that if the grain doesn't go to Russia, it has to go somewhere—most likely in other export trade—so more covered hoppers cars will still be needed.

—Open-top car orders ought to keep coming, for both hoppers and gondolas equipped for rotary dumping. Here, too, though, there are questions, most of them relating to federal policy involving use of coal but some also having to do with coal operators' ability to get mines into production and utilities' ability to get coal-fired plants into service.

—If Railgon (another spinoff of Trailer Train) gets working, the plain gondola market should get a boost regardless of what happens to the IPD rates placed upon gons last year by the ICC.

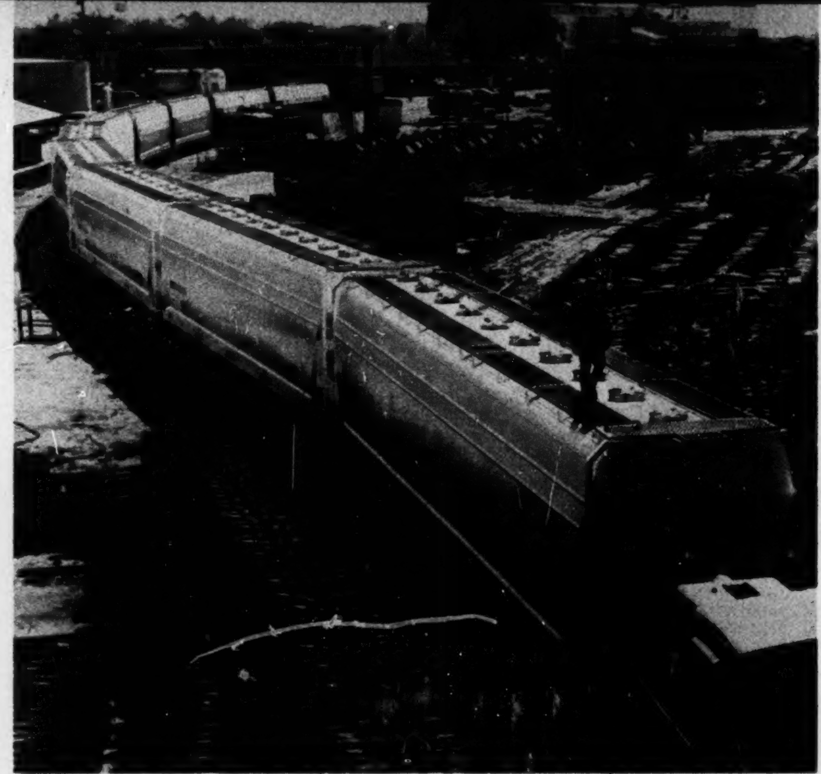
—Flatcar and trailer equipment for TOFC/COFC service ought to be a good market in '80, even with recession. Last year, piggyback volume rose, in the face of beginning recession, and railroad energy efficiencies should keep it going.

- **What the market says.** In assessing prospects for 1980 and beyond, *Railway Age* surveyed railroads as to their capital and maintenance spending programs for 1980, a survey that pointed to an increase of close to 15% on the capital side for improvements to equipment and plant (*RA*, Dec. 31, p. 16). In assessing these prospects from the supplier side, *RA* also surveyed major carbuilders and component suppliers.

First, look at the numbers. If there is to be a major surprise this year, it will come if deliveries of new freight cars drop much below the levels of 1979. Individually, both carbuilders and component suppliers are looking for a 1980 that comes awfully close to matching '79 in terms of production; our own estimate is 85,000 cars delivered.

New orders, however, are something else, and here the suppliers see a definite cooling off. Something in the neighborhood of 65,000 seems to be a popular number for car orders this year, but there are also those who look for new business to decline even further from the 100,000-plus levels of the past two years. ACF President Henry A. Correa, for example, estimates that new orders will be "substantially lower . . . somewhere between 50,000 and 60,000," and even the most optimistic of suppliers don't look for orders much above 65,000.

It would appear that the industry is headed, once again, for a valley—but, as several builders are quick to point out, the peak-and-valley situation isn't what it



A new railcar builder, Ingalls Shipbuilding division of Litton Industries, assembled these covered hoppers for North American Car under a 10-year agreement. Renovated shops at Ingalls' Pascagoula, Miss., shipyards can turn out about 5,000 cars a year.

used to be. At Pullman Standard, President Robert A. Cumming sees the decline as representing "a sharp moderation of the historic cyclical decline experienced by the carbuilders and reflects our belief that the trend of industry cycles will flatten over the next several years." W. R. Galbraith, vice president-sales of FMC, takes a similar tack: "I think that when our industry bottoms out again, as it always does with peaks and valleys, the bottom will be higher than it has ever been before. Once, we bottomed out at 29,000 cars, but I don't believe the figure will ever get down there again . . . . Even in a recession year, and coming off an extremely high production year, I still think new orders will be around 65,000."

Recession will be, of course, a major factor to consider, but there will be others—among them the makeup of the market itself and the impact of offshore buying.

- **The "outside" influence.** In the recent past, car orders have been split roughly one-third and two-thirds between railroads and outside purchasers, and there the outlook is somewhat murky; carbuilders are closely watching the situation, and most builders apparently are looking for a decline in the percentage of orders coming from the outside.

Concerns in this area are real. R. L. Duchossois, president of Thrall Car, expresses it this way: "Third-party money or 'tax shelter' orders are being placed rather than the traditional 'need' orders. I am not really comfortable with this, as I don't believe locomotives can be purchased fast enough to move all the equipment being purchased." John C. Felten, president of Evans Products' Transportation Systems and Industrial Group, elaborates on the theme: "One disturbing note concerning the 1978-79 statistics is that, in my view, much of the 'demand' for new rolling stock. . .has come about as a result of supply/push, rather than demand/pull by railroads and shippers. This may have resulted in artificially high beginning-year backlogs for certain car types, such as standard boxcars, where the shortage has disappeared and a surplus is developing. I refer to the supply/push created by demand from individual investors, syndicators, and per diem leasing companies."

Consensus, not surprisingly, is that the elimination of incentive per diem would put a definite damper on "outsider" car orders, but there are exceptions. ACF's Correa, for instance, sees "no major reduction. . .with the elimination of IPD, since the basic per diem is now close to 80% of the old rates including incentives." And Thrall's Duchossois takes a pragmatic approach: Elimination of IPD, he believes, would indeed reduce orders, but "we as an industry must realize that we can't always have the best of both worlds. If the railroads don't get a satisfactory return on their investment, there won't be a marketplace for our equipment, and the question becomes academic."

- **The offshore influence.** Then there is the matter of foreign competition—the importing of both components and entire car kits—and here it's a bit harder to arrive at a consensus.

FMC's view, put bluntly, is that foreign competition "will dry up" when domestic industry can satisfy demand, and in Evans Products' view, that time is now: "The current capacity of the domestic carbuilding industry is sufficient to satisfy long-range requirements of the railroads and shippers." In that connection, Evans' Felten notes that the present duty on imported freight cars is expected to be maintained.

Thrall's Duchossois and Peter C. Bayer, senior vice president-marketing and engineering of Berwick Forge, however, both warn of the impact of the kit imports, and Pullman Standard's Cumming sees a potential long-range problem: "Often highly subsidized, foreign competition will be a growing threat to U.S. carbuilders, particularly if the forecasted stabilization of the U.S. railcar market occurs."

Sharing the long-range concern is R. C. Ortner, president of Ortner Freight Car; it is the import-components aspect that concerns him most. Ortner recalls that, in past lean times in the carbuilding market, many component manufacturers "had to look to other industries for business." Then, when carbuilding picked up again, "some of the former suppliers were missing, or were only willing to furnish parts at elevated prices. . . .In fact, it was the capacity of the suppliers rather than the capacity of the carbuilders that leveled railcar deliveries although orders were on a peak-and-valley pattern after World War II." Now, Ortner observes, availability of offshore components has changed the picture. Now, production can also have peaks—along with valleys that "could be disastrous to all but the tried and proven companies. Hopefully, in the valleys of the future we won't drive more component suppliers away from the railroad industry—but I think the situation will be worse than ever, as foreign parts are even dumped onto an almost nonexistent market to clear inventories."

- **Shortages? Some, but. . .** By and large, both builders and component manufacturers do see shortages easing, with the pace of freight car production slowing somewhat this year and with orders expected to fall more sharply. At the same time, producers of the components that have been in tightest supply—including wheels and truck castings—have been making sizable investments in plant expansion, counting on demand to remain relatively high and hoping that their faith in the market will be recognized if times turn lean.

Shortage of most major components "should be alleviated in 1980," says Richard J. Quilter, manager-transportation sales of Standard Steel, "with wheels probably still continuing to be tight. Foreign competition remains a threat, although dependence on foreign sources should diminish, particularly for wheels, in the next two years." In that context, Quilter adds, "we still object strenuously to the lack of import duty on wheels."

Clearly, though, the long-term impact of offshore buying remains to be assessed. As Charles N. Hood II, director, market development of ASF, puts it, the entry of foreign competition into the domestic market "is virtually a new experience for the railroad casting supply industry." But, he adds, "assuming that free market forces are allowed to govern—no subsidies or other distorting arrangements—ASF does not believe it has anything to fear from such competition, simply because we believe ourselves to be better than cost competitive."

There are a few other problems—including the supply industry's own problems in maintaining profitability in stressful economic times. R. F. Murphy, vice president of Holland's Rail Equipment Division, notes, in particular, that "no one seems to have a real fix on labor and material costs, and increases come like unanticipated snowstorms." J. C. Janke, vice president-marketing of WABCO's Westinghouse Air Brake Division, takes the problem a step farther: "In a business cycle where insufficient capacity is a key limiting restraint and labor and material costs are escalating at a record pace, maintaining profitability—especially as measured in profit margins—will be very difficult and require constant management attention."

If activity in 1980 does slow somewhat from what ASF's Hood accurately terms the "frantic" pace of 1979, however, there could be a few benefits in the profit area. In recent times, as FMC's Galbraith points out, carbuilders have been turning out new equipment at rates that may have involved trade-offs between efficiency and volume: "There are some cost efficiencies that could be put in, at a lower production rate."

At the same time, if new orders do turn down, other factors come into play to work on profitability. As Pullman Standard's Cumming points out, "Profitability will be affected more by margin pressures due to increased competition than by escalating costs, since most orders incorporate escalation clauses."

• As for a backing-away... In addition to the impact of the expected downturn in orders, of course, there is the matter of cancellations to consider, and on this point suppliers are somewhat divided. On the one hand, Bethlehem Steel sees cancellations coming, but they "should not significantly alter the total number of car deliveries anticipated for 1980; other cars currently in carbuilders' backlogs will be advanced to solidify 1980 schedules." Similar thinking holds at Westinghouse Air Brake. Even with cancellations running as high as 20,000 to 25,000 cars, says Janke, "the backlog will remain healthy and carry us well into 1981."

At this point, such other companies as Pullman Standard, ACF, Holland, ASF, and Evans are not particularly concerned either about the effects—or the likely numbers—involved with cancellations. But Thrall Car confesses to a gut feeling that the backlog "isn't as solid as most believe. Although most companies have a sold-out 1980 production schedule, this is the result of the high level of orders placed by leasing companies in late '78 and early '79," some of which have already been dropped. (There is, though, at least one shop where cancellations will definitely not be a problem: "Due to the custom nature of our product," observes Union Tank Car President Jack R. Kruizenga, "cancellation is not an option the buyer/lessee has available to him.")

• Down the road. After looking back and looking around and after considering many of the factors affecting the railroads and the industry and the market, how do carbuilders and other suppliers really think? Without exception, those surveyed think positively, for the short and/or long term. They express that optimism in several ways.

The carbuilding industry, says Evans' Felten, "has shown that it can respond to cyclical swings in the demand for railroad equipment. It has shown that it can respond to shipper needs through the design, development, and production of car types which help those shippers reduce costs, ship more efficiently, and keep their business riding on the rails. The continued and growing cooperation among railroads, car manufacturers, leasing companies, and shippers, in my view, guarantees a bright future for all those involved in the railroad supply industry."

ASF's Hood is no less optimistic—"if." For the long term, he observes, "the prospects for our marketplace, the railroads, should include significant growth. I say 'should' because two caveats apply: Good government and good management will both be needed if the growth expectations are to be fulfilled."

As for Thrall, while its optimism regarding the carbuilding may now be somewhat guarded, there is, nonetheless, optimism because, Duchossois says, the industry "is far more imaginative and creative in marketing, engineering, and production than it has ever been. The need for our product is there—and it is up to us as producers to get it to the marketplace in a manner that is economically sound for the customer."

For a summing up, there is WABCO's Janke: "There are some major problems—but the opportunities and the overall climate seem to be swinging in favor of railroads."

Will this be the year of the RoadRailer?

There will be "new" in 1980, there always is, in terms of the design of freight-carrying equipment going into service. But this year there may also be "radically new"—as represented by RoadRailer, the vehicle that carries rail and highway wheels along with it.

RoadRailer's developer, Bi-Modal Corp., has been beating the drums for this intermodal concept for the past couple of years, experimental work at DOT's Pueblo Test Center has brought RoadRailer good marks, and North American Car Corp., which has helped to bankroll development, is ready to go. While bench testing of the braking system (required by FRA) remains to be completed, North American is indicating that service will begin this year on one or more railroads, with 250 units a likely first order.

James H. Ozanne, president of North American, puts the near-term and the long-term this way: "RoadRailer will be put into commercial operation during 1980, offering significant economic benefits to railroads and shippers, versus conventional piggyback operations. . . . Government-funded studies have projected that piggyback operations could be expanded to 10 million trailerloads per year on a profitable basis. Frankly, we don't think this will happen. Instead, the introduction of RoadRailer will cause piggyback growth to level off short of that mark [and] the substantial growth that piggyback has experienced in recent years will be diverted to RoadRailer. The competitive economics of RoadRailer will cause the market for rail-highway intermodal movement to double to 20 million trailerloads per year,and we see the start of RoadRailer commercial operations in '80 as a major milestone on the way to gaining that doubling of the intermodal market."

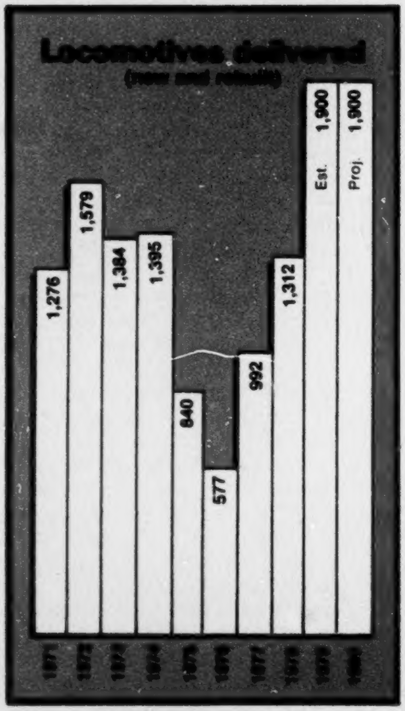
A completed locomotive body is lowered onto a truck assembly at LaGrange, Ill., where EMD built 1,340 units in 1979, 1,299 for U.S. roads.

Locomotives: Just as many, more efficient

Locomotives coming into service in 1980 will be an improved breed, reflecting a new coming-together of demand and design in several key areas.

The demands are for greater fuel efficiency, for provision of greater usable power at the rail, and for improved reliability coupled with ease of maintenance. And if the designs being turned out by all builders don't yet go all the way to meeting those tough requirements, they are coming ever closer.

The market itself continues to look good, at least through 1980. Builders and rebuilders produced about 1,900 units last year; while the current backlog is down from what it was a year ago, major manufacturers still see better than a fair chance that output in 1980 can equal that of 1979 (which was at the highest level since 1953).



• Back at R&D... While they were working at or near capacity last year, locomotive builders by no means neglected the research-and-development area—an area in which priorities may have shifted somewhat. For years, railroads have said that improved reliability was Priority No. 1—but with diesel-fuel prices *averaging* more than 73 cents a gallon in 1979, improved fuel efficiency has come to be, at the very least, Priority No. 1A.

General Motors' Electro-Motive Division responded to No. 1A with, among other things, development of a more fuel efficient engine, the 645E3B, which went into production last July and was made available both for new units and for retrofit. Reductions in fuel consumption are achieved through improvements that turn small individual savings into a significant overall saving: improvements related to such things as a reduction in engine-idle speed, greater thermal efficiency, modifications in operation and control of dynamic braking and radiator cooling fans, and use of an automatic engine purge control that permits engine shutdown at ambient temperatures of 50°F and higher. At utilization levels attained by SD40-2 and GP40-2 units, EMD pegs fuel savings at up to 13,200 gallons a year.

General Electric is also stepping up its pace in the race for fuel efficiency, also with a package of improvements involving the engine itself, the turbocharger and turbo seal system, optimization of the engine speed schedule, and modifications in the radiator fan and dynamic braking systems. In comparing fuel economy, GE puts its new B36-7 unit up against the earlier U36B: Utilizing a typical freight duty cycle, GE says, it's possible to estimate fuel savings of 7.2%, or 27,400 gallons a year, assuming a 90% locomotive availability.

For its part, Morrison-Knudsen is taking a different approach, using the Sulzer diesel engine and now approaching the low- as well as the high-horsepower market. Most recently, M-K had a 1,500-hp unit, the TE50-4S "Fuel Saver," out for tests on Chicago & North Western; the locomotive, powered by a turbocharged six-cylinder Sulzer engine,

Aggregate fleet horsepower jumped nearly 3 million since late '78 and may jump as much more in '80.

showed impressive numbers in comparison with fuel consumption of other 1,500-hp units. In a carefully monitored test conducted last November, for example, C&NW ran a consist of the M-K unit, a GP15, and a rebuilt GP7, and when all the fuel measurements had been taken, North Western found that, on the basis of fuel consumed per 1,000 horsepower-hours produced, the Sulzer-engined unit came in first. Stated as a percentage of fuel used by the test unit, the GP7 came in at 111.3% and the GP15 at 116%. Looking at those numbers, John D. O'Neil, assistant vice president-motive power for C&NW, also found a belief reinforced: "Everybody talks big horsepower—but the lower horsepower range is open for a terrific fuel savings."

● **At the top...** Bigger horsepower, however, is still where much of the action is, and all of the builders are providing it.

For EMD, this means the "50" series, the 3,500-hp GP50 and SD50 equipped with turbocharged 16-cylinder 645F engines. Twenty-three prototype units, designated GP40X, have been under test on four major roads for more than a year; the first production GP50s will be shipped in April, with the first SD50s scheduled for delivery in 1981.

Fuel efficiency is a factor with the 50 series, but the biggest advantage of the 50s may lie in increased hauling capability made possible by improved adhesion factors. The key to this improvement, EMD says, lies in the so-called Super Series electronic control system, originally estimated to produce a one-third boost in wheel-to-rail adhesion, from 18% to 24%. A number of engine, turbocharger, traction motor, and alternator improvements will be incorporated in the new units, the result of a GP40X testing program that was a bit out of the ordinary in that the GP40X was not a single design with all components in common; component configuration differed from unit to unit so that a number of possibilities could be looked at, with the 50 series then to become a best-possible package.

● **On the road for test.** Among the roads testing the GP40X has been Southern Pacific, but SP hasn't just tested the EMD prototypes. It also has had four GE 3,000-hp B30-7 units; it is scheduled to test four of the new GE B36-7 units beginning in February; and it has had well over a year's experience with M-K's TE70-4S units equipped with 12-cylinder Sulzer engines. SP hasn't said much, yet, about its testing program and what the program has shown, but indications are that it may soon be ready.

In the meantime, GE has been readying for delivery the 3,600-hp B36-7 locomotives, which, GE says, will provide an advanced adhesion control system and the continuous tractive effort capability to use it. GE calls its entry in the adhesion race the Sentry Adhesion System, a system designed to provide higher levels of all-weather adhesion without compromising wheel or rail life or sacrificing fuel efficiency. Sentry, GE says, has been tested under adverse weather conditions, on severe grades, and on reverse curves at adhesion levels of from 23% to 26%, with results indicating that "railroads can safely increase, on a regular basis, the tonnages assigned to the B36-7 over those presently assigned to other four-axle units."

Sentry works on a multistage response basis, starting with an application of sand at the first sign of slip. Stage 2, which the builder says won't be triggered in the great majority of cases, includes sanding as well as a small reduction in tractive effort followed by gradual reapplication. Stage 3, if it should be needed, follows up with a greater reduction in power. Return to the pre-slip notch control is then made automatically as conditions improve. As for the low-speed range—where highest adhesion is needed but where the tendency toward wheel slip is the highest—GE attacks the problem through connection of motors in parallel so that one slip will not affect other motors.

Of course, even with the increased emphasis on fuel efficiency and on provision of greater usable power, railroads haven't forgotten their demands for greater reliability and for greater ease of maintenance—and neither have the manufacturers.

EMD, for example, had been no stranger to turbocharger problems, but it looks at the turbo as a long-life component, one that should go six or seven years before needing change-out. Similarly, module maintenance should be reduced on the 50 series, and accessibility has been improved, especially on the six-axle SDs.

As for M-K, it continues to see great promise in the rebuild market as it keeps trying to crack the new-unit market. About 65 locomotives went through the rebuild process last year, more than had been forecast, and the outlook for '79 is for an increase of about one-third in rebuild operations. At the same time M-K continues to plug both the big and the little Sulzer-engine units, for both new and rebuilt power—and it is frank to admit that there were problems, early-on, with the big units in tests on SP. Specifically, there were problems with exhaust valves, but with a switch to "nimonic"-type valves and a change in the valve guides, M-K thinks the problem has been solved. Still, even if problems have been solved and even if SP should find the Sulzer an excellent piece of machinery, M-K has a problem, and it has to do with the simple fact that railroads are reluctant to complicate maintenance, repair, and parts inventory unless a new type of locomotive can really represent a significant jump forward.

Ironically, perhaps, while M-K is working to introduce the European-developed Sulzer engine into the U.S., U.S. builders are continuing to find success in the export market. EMD, for instance, is cautious because of the buildup of world tensions—but as the same time, it has had "considerably more" inquiries than it had a year ago.

● **For tomorrow.** Overall, if you tap the thinking of such as Peter K. Hoglund, GM vice president and general manager at EMD, or Warren A. Fox, EMD's director-sales and service; GE officers such as Robert Weeks, manager-operational and product planning, and Frank L. Baumgardner, manager-remanufacturing; or J. G. Fearon, vice president and general manager of M-K's Railroad Division, you are hard put to find pessimism regarding 1980: The business is there, and it's there in a couple of forms.

There is, of course, the new-unit demand, which ran to something over 1,700 locomotives last year and promises to approximate that figure in 1980.

There is also the rebuild demand, which increased last year and may at least hold steady in '80, given the capacity or near-capacity operations of new-locomotive builders, plus the capabilities of such railroads as Santa Fe and Seaboard Coast Line, plus the additional capabilities of commercial rebuilders, among them M-K, Precision National, and Illinois Central Gulf (which will do work both for ICG and for other locomotive owners at its Paducah, Ky., facilities).

What will the numbers show at this time next year? Probably they won't show any tremendous increase in number of locomotive units in service, after retirements of worn-out units are taken into account. But they should show another significant increase in aggregate fleet horsepower; horsepower jumped from a bit more than 60 million in late-1978 to about 63 million as 1980 began, and a similar increase for '80 is not out of the question.

What that adds up to is increased transportation capability.

Most roads will maintain track work at last year's high levels, though a stretching-out of Conrail's programs could lower industry totals. Meanwhile, improvements aimed at improving traffic-handling capability are getting more and more attention.

Fixed plant: A slight shift in emphasis

If the estimates are on target, railroads last year had capitalized expenditures of a bit more than $1 billion for roadway and structures improvements, and fixed plant maintenance expenditures of more than $4 billion.

For this year, surveys indicate that the industry will not be falling back into old, deferred-spending ways—either capital or maintenance—although there will be shifts in spending emphasis.

If one word could be applied to planning for 1980 in this broad area, it would probably be "consistency"—in the sense that budgets continue to call for substantial expenditures for improvements in yards and terminals (very much including TOFC/COFC facilities). While one forecast sees less new rail and fewer crossties scheduled for installation this year, a single railroad may wind up accounting for a great part of those cutbacks.

Actually, roadway and structures capital expenditures haven't showed a decline since 1975, and the operating expense charged off to maintenance-of-way-and-structures has been increasing every year since 1968. This means that the railroad plant is in better shape now than in quite a while—with no setbacks coming.

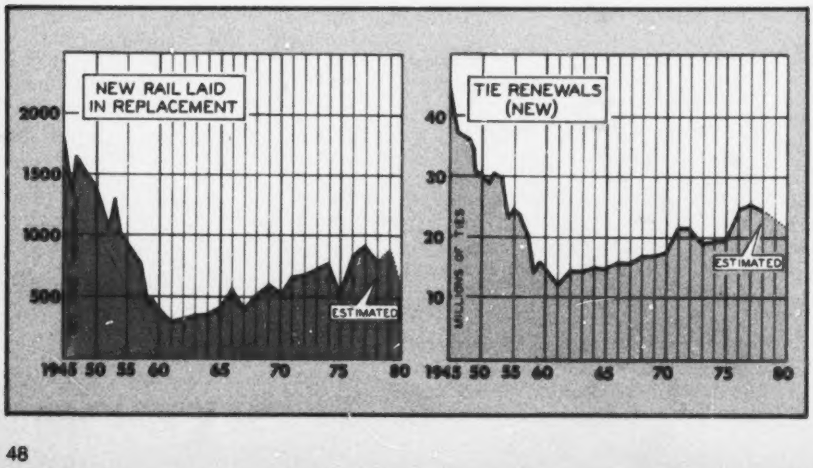
A number of factors have had a bearing. One, from the outside, was the promulgation of FRA's track safety standards, which have lately been undergoing revision. Another was a management recognition—on those roads that had allowed maintenance to slip somewhat—that retrenchment had perhaps gone too far, and that traffic levels (to say nothing of projected traffic increases) were demanding that maintenance operations be stepped up. Then there was the federal assistance, through loan guarantees and purchase of preference shares, provided under the 4R Act in 1976; most of the federal aid thus far provided has gone for improvement of plant. 4R came on top of 3R, the Regional Rail Reorganization Act, which got Conrail started on a long-term rehabilitation program, and there was also the Northeast Corridor project, begun as a five-year job but now stretched out for three more years.

- **Looking at '80.** For 1980, the projections now do look for an overall drop of something around 20% in new rail installed and a 10% decline in crosstie insertions; most of the reduction in both categories, it appears, will be accounted for by a stretching-out of work at Conrail (which has already made impressive strides in track rehabilitation work). In spending for track surfacing—work which has shown nothing but increases for at least 10 years running—the outlook is for another year of increase.

In the meantime, what about developments in track machine technology? One veteran observer looks back at 1979 as a year with, really, no outstanding technological breakthroughs, none of the kind that would have a major impact upon m/w efficiency. Several machines did come into wider use, including the track renewal train and the rail change-out unit, both of which could have substantial effect with still broader application. While all manufacturers of m/w equipment were making modifications to gain greater efficiency, a few entirely new machines did come into the marketplace, including Plasser's rail-contouring machine and Loram's device for measuring and analyzing rail corrugations electronically.

- **Where the needs are.** Railroads applauded improving technology, even as they called for more improvements—in different areas, especially as regards work practices. For some roads, there seemed to be an emphasis on off-track equipment; others called for the kind of machines that could clear quickly and just as quickly get back on the job; still others seemed to suggest that increasing traffic volumes and increasing frequency of train movements would mean increasing dependence upon manpower and smaller machines that could get work done without delaying either train movements or the track work itself.

Despite the "standard" concentration on m/w expense as a measure of what railroads are doing in the fixed plant area, m/w expense is not the only mea-



Union Switch, GRS land big signaling contracts

The new decade opened auspiciously for two of the biggest suppliers in the signaling field. On Jan. 9, Union Switch & Signal Division of WABCO emerged as the apparent low bidder on train controls for the first 20.5 miles of the Dade County (Miami) Metrorail system. The Union Switch bid was $27,964,645, which enormously pleased the Dade County people because their engineers had estimated the cost to be $42,962,600. General Railway Signal was a close runner-up with a bid of $29,002,592. Westinghouse Electric bid $39,199,500, and Siemens $42,955,847.

One week later, the Washington Metro opened bids on train controls for 19 miles of extensions—and this time GRS narrowly edged out Union Switch as the apparent low bidder. The GRS bid was $26,750,684. Union Switch bid $27,647,374. The engineers' estimate was $32,828,160.

Another big contract to be awarded this year will be for signaling the northern end of the Northeast Corridor Improvement Project, from New York to Boston. Washington sources say this contract will be worth around $48 million. General Railway Signal last year won a $77.9-million contract, biggest in its history, for signaling the Washington-New York portion of the NECIP.

All of these contracts involve federal money. Today, in fact, federal funding is accounting for about 50% of the entire market for signaling hardware and knowhow—a market that may total as much as $250 million this year, by one authoritative estimate. "As long as the federal money keeps pouring in, we see nothing but good times ahead," one supplier told *Railway Age*. Federal money is financing not only improvements to passenger systems (Amtrak as well as commuter and rapid transit) but also highway grade crossing protection. Federally financed crossing improvements are now funneling more than $90 million a year to half a dozen producers of protection equipment.

sure—not when 1979 saw $1 billion or more spent in capital investment. Nor is roadway-track expense per se the only measure in either capital or maintenance dollars, because of concurrent improvements being made in signal systems and in terminal improvements.

In short, railroads—some of them—need improvements in traffic-handling capability, and there are only a few ways of getting those improvements. One is to add track, to double-track single-track lines or to add a third track to double-track lines; Union Pacific, for one, is doing some of this.

Another way is to add centralized traffic control and/or to make existing ctc systems more flexible; UP and Burlington Northern, for two, are also working in this direction, and one of the major ctc projects coming up will involve the signaling of BN's new 116-mile coal line (basically a single-track line) between Orin and Gillette, Wyom.

Still a third way to boost operational capability is to improve yards—something, for example, that UP is doing at North Platte, Neb., Chessie System has been doing at Cincinnati, Southern has been doing (systematically) throughout its system, and Family Lines has been doing at such key points as Louisville and Waycross, Ga.

● **As for piggyback...** TOFC/COFC terminal facilities are also getting high-priority attention, what with three consecutive years of piggyback traffic records. Even though piggyback may be starting 1980 at less-than-record pace, economy-sensitive as it is, programs to increase terminal capacity are continuing because most major TOFC/COFC operators saw 1979 as a harbinger: If '79, with its no-directional economy could see new records set for piggyback traffic, any upturn in the economy has to mean a substantial upturn in TOFC/COFC, and the business is going to go to the railroad that's ready for it.

One key to railroad planning for track improvements and terminal improvements has to be government policy—FRA policy in the area of setting new track safety standards and, especially, broad government policy that could bring large new volumes of traffic to the railroads. Nobody really expects government to ease up on safety (only, perhaps, to become more realistic), but some people do expect government to do certain things, in the areas of regulation and the promotion of energy efficient carriers, that could make the 900 billion ton-miles of 1979 seem not so big after all.

● **How much, how soon?** There is really no way of knowing, now, how much railroads ought to be spending in 1980 and beyond for improvements to and maintenance of fixed plant.

What is known, however, is that well-to-do railroads will continue to get better, in terms of handling traffic at speed and with efficiency while less-well-off roads will continue to lose business to those that can handle it better—a fact that both government and rail labor unions have been less than quick to recognize.

If you look at a Norfolk & Western, a Chessie, a Conrail in the East; a Southern or a Seaboard Coast Line/Louisville & Nashville in the South; a BN, a Santa Fe, a UP, a MoPac, or a Southern Pacific in the West, you're going to see better track, along with terminal facilities that are capable of handling more business. With some exceptions, however—and a few trying-hard roads do come to mind—improvement programs are going to be of minimal nature, because the money just isn't there.

Where, in all this fixed plant consideration, does the public interest lie? In two places: first, in safe railroading, in the maintenance of safe operations; second, in the maintenance of what can be economically maintained, because after safety comes the maintenance of a rail system that can support itself.

What this comes down to, probably, is that by the end of 1980 there will be a few thousand miles less track to maintain, a number of terminals that won't exist any more—track and terminals that the western bankrupts no longer have to operate, track and terminals that other roads will be able to dispense with in the interest of maintaining and improving that which remains.

Since 1975, railroad miles of line has been below 200,000 miles, and miles of track dropped under 300,000 miles a couple of years ago. While a few shippers, most of them small shippers, keep arguing with cutbacks, cutbacks serve both the railroad industry and its customers, in the sense that the railroad is a volume carrier that demands not just per-car volume but per-train volume in order to make it in the face of current labor and other operating costs. To put it another way, the railroad is not really a social institution—and when rail transportation is regarded as such, legislation and private options now provide means by which users can make their own deals for the preservation of service.

Eventually, you get down to this: Railroads in 1980 are going to do both less and more in fixed property improvement and maintenance—and, despite what any survey may show, "more" will mean an increase in the capability for moving more traffic, more trains, more safely. ■

Review of 1979

The plus factors add up

That final year of the '70s, 1979, was another of those "mixed blessing" years for the railroad industry—but this time the mixture was more to the industry's liking than it has been in more than a few years.

On the positive side, there were these developments:

—For the industry and for many individual roads, net ordinary income and rate of return were up. For some roads, the net figure hit record levels (albeit in inflated 1979 dollars).

—Although the national economy often seemed unsure of itself, rail freight traffic, measured in ton-miles, reached a new record high. Coal, grain, and chemical traffic were major contributors as the ton-mile figure climbed to about 900 billion, and TOFC/COFC carloadings and trailer/container loadings overcame the mushiness of the economy to set new records for the third straight year.

—Freight rates were up, of course, but the average ton-mile cost of rail transportation still stayed under three cents, at an estimated 2.7 cents.

—Railroads and railroad labor? For the most part they remained at peace. Agreements reached with two unions early in the year wrapped up contract negotiations on the national level, and only the confrontation involving Rock Island, the Brotherhood of Railway and Airline Clerks, and the United Transportation Union put a major blot on 1979's record.

—On the Washington scene, the general tendency seemed to be one of easing up on regulation in a number of areas, even as proposals for deregulation were getting a hard look from the Administration, Congress, and the industry itself. The Interstate Commerce Commission, for example, lifted regulation on rail movement of perishable commodities and began looking at relaxation of regulation involving TOFC/COFC operations. ICC also undertook new studies of the role it should play, if any, in connection with the mandating of car service rules, and, in response to industry initiative, it began to rethink policies regarding car hire rates, especially incentive rates. As for broad-brush deregulation, Administration proposals came early in the year, congressional consideration later, and at year-end the Senate Commerce Committee had approved a deregulation bill the industry could accept with some reservations. There were fears in some quarters that attempts would be made to amend the legislation by placing severe restrictions on railroads' freedom of action on coal rates, but '79 came to an end with this problem still just a potential one. The House had lagged behind the Senate on deregulation, but there were indications that it might be gearing up early in 1980, perhaps with legislative proposals that would go beyond deregulation itself to consider other, even broader, industry matters.

—Restructuring of the industry, or of some parts of it, moved ahead slowly—but it did move, as the ICC approved one consolidation proposal (Grand Trunk Western acquisition of Detroit, Toledo & Ironton and Detroit & Toledo Shore Line) and drew closer to decision time on a couple of others (Burlington Northern-Frisco merger and Southern Pacific purchase of Rock Island's line between St. Louis and Kansas City and Santa Rosa, N.M.). Meanwhile, both bankrupt western roads, Rock Island and Milwaukee Road, filed reorganization plans with the courts.

—Finally, the industry did another tremendous job of self-help in '79, especially in terms of modernizing and expanding locomotive and freight car fleets. Installations added up to about 1,900 locomotive units and 90,000 freight cars. While many of the cars were supplied by customers and other investors, railroad capital investment for 1979 still totaled approximately $3,167,000,000 (including investment in fixed plant). Capital spending again far surpassed retained funds, but at least the shortfall was slightly less than it had been in 1978.

Then there were the negative aspects of '79, the "blessings" that the industry would have preferred to do without:

—Fuel prices skyrocketed, almost doubling from the averages of 1978. For the industry, the average cost of a gallon of diesel fuel jumped from 36.54 cents in '78 to 72.68 cents last year, and western roads were particularly hard hit as the average went from 35.36 cents to 73.69 cents.

—Inflation continued to hit other prices as well, even as economists continued to talk of recession, and at year-end a softening had indeed set in. End-of-year forecasts looked toward a decline in rail carloadings of 4.5% to 5% for the first part of 1980, and some economists were starting to hedge on earlier predictions that general business conditions would begin to improve along about the end of second-quarter 1980. Complicating the forecasts were other factors, national and international: The former largely had to do with the onset of the political campaigning season; the latter seemed even more complicated, with turmoil in the Middle East taking its toll, peace threatened, and, from an economic and transportation standpoint, new and unwanted uncertainties regarding petroleum supplies and grain exports.

—On the competitive scene, railroads continued to have problems in trying to maintain (let alone increase) market share, despite proven operating efficiencies that should have been paying off in times of fuel scarcities and soaring fuel prices. The issue of coal slurry pipelines didn't attract the attention that it had earlier, but the issue was far from gone: a House committee approved legislation that could lead to grants of eminent domain to pipeline builders.

—On the regulatory front, despite ICC actions (or the beginnings of actions) that could be regarded as positive, controversy continued as to the commission's interpretation of the supposed regulatory reforms contained in the Railroad Revitalization and Regulatory Reform Act of 1976. Railroads had long argued that ICC was not following the intent of Congress in a number of areas, and late in '79 their argument got support in a lengthy report commissioned by the Department of Transportation.

—Finally, even though the management-labor area was relatively quiet last year, the Rock Island strike and the federal government's handling of the situation left both management and labor concerned, especially with respect to government's ignoring of a key provision of the Railway Labor Act covering creation of emergency boards and the maintenance of prestrike conditions by both management and labor while a board studies a dispute.

So that was 1979—not a great year, perhaps, but a good one, one that could serve as a springboard to better things.

Looking back, AAR President and Chief Executive Officer William H.

to a year of progress

1979 at a glance

	1979	% change from 1978
Revenue carloadings	23,876,524	+2.2%
Revenue ton-miles	900 billion	+4.9%
Revenue per ton-mile	2.70 cents	+9.8%
Total capital outlays	$5.5 billion	+37.5%
Freight cars installed	90,000	+34.2%
Locomotives installed	1,900	+63.0%
Employees	505,300	+2.9%
Average annual earnings	$22,600	+9.9%

Dempsey saw the industry making "important advances on a number of different fronts in 1979." Looking ahead, he saw an industry that "appears to be on the verge of a substantial long-term comeback when the national economy recovers from its present difficulties."

AAR's top officer did not minimize the problems, among them problems related to government, but in this area he was not pessimistic: "We still have some major legislative hurdles to clear, but in this effort we should have the cooperation of important shipper organizations, rail labor, the supply industry, and the Administration, and we are confident that Congress will act in 1980 to begin the process of basic regulatory reforms which is essential to the continued progress of the industry."

He concluded that, while nobody is predicting another record traffic year in '80 because of economic conditions, "beyond that there is a solid base for optimism. . . . The industry's fortunes generally appear to be on the upswing, looking at the broad picture."

Financial results

It was hard to argue with AAR's observation that 1979 was "a year of progress" for the railroads financially. As reports came in for the first, second, and third quarters, a significant number of roads were reporting record highs, and through nine months the industry as a whole could point to ordinary income of $476.1 million, in sharp contrast to the nine-month report for 1978, which showed a deficit of $39.4 million. Rate of return for the 12 months ended Sept. 30 was pegged at 2.53%, up from less than 1% for the comparable 1977-78 period. Final figures on calendar '79 would show that the rate topped 2% for the first time in five years; while that was encouraging, the return was "still far from adequate," as AAR was quick to note. A slight improvement was indicated in terms of the excess of railroad capital expenditures over retained funds, but for the year as a whole, it appeared that the industry would show a drop in working capital for the first time since 1975.

Capital expenditures

Total capital expenditures by railroads and outside interests in '79 approximated $5.5 billion, a number that reflected not only the inflation factor but also a high level of freight car and locomotive installations and an increase in spending for fixed-plant improvements.

Deliveries of new and rebuilt locomotives were the highest since 1953, and installation of approximately 90,000 new and rebuilt freight cars put fleet additions at the highest total since 1967. Backlogs for both cars and locomotives, meanwhile, remained high, with carbuilders and railroad shops going into 1980 with better than 120,000 cars on order.

As in the past several years, '79 spending for new freight cars was accounted for in large part by "private" buyers, including Trailer Train and Railbox, with those private sources responsible for about two-thirds of 1979 orders and deliveries.

Traffic and service

On only a slight increase in carloadings, railroads posted an increase of about 4.9% in revenue ton-miles in 1979, which meant that the industry would set a new ton-mile record for the second year in a row. The ton-mile total of 858-1 billion for 1978 broke a record that had stood since 1973, but the '79 figure was expected to be around 900 billion.

In terms of traffic mix as measured by carloadings, however, 1979 results were very much mixed. TOFC/COFC traffic set new records for the third straight year;

coal volume was the highest in about 25 years; grain traffic was described as the heaviest in history during the harvest period; and chemical traffic remained strong. But there were also disappointments, perhaps chief among them the decline in automobile traffic, reflecting the auto industry's own decline in sales and production. Overall, the industry reported carloadings increases in nine commodity categories and declines in 12.

Even where there were increases, however, some of them had to be regarded as less than expected. TOFC/COFC traffic, for example, did not show the gains that might have been predicted in view of rail mode advantages in fuel efficiency. Coal volume fell somewhat below expectations because of delays in development of the western coal industry as well as delays in completion of coal-fired electric utility plants and in conversion to coal of other plants. As for the rail movement of perishables, it will remain for another year to show whether railroads can make a major dent in a market where their penetration had been less than 10%. Produce traffic did increase by about 30% after its movement by rail was deregulated in late May, and various programs providing for balanced piggyback movements (dry freight west, perishables east) were showing promise, but a continuing pattern of increases will probably depend upon the railroads' ability to maintain schedules and users' willingness to provide equipment.

Freight rates

Like just about everything else, rail freight rates went up again in 1979, though perhaps not as much as might have been desired in light of increases in fuel prices and the industry's need for an improved rate of return.

Average fuel prices for the industry as a whole rose from 36.54 cents per gallon to 72.68 cents, 1978 to 1979, and in the West average prices more than doubled. Several fuel-based rate hikes were granted during '79, and ICC did move with relative speed to approve such increases. Still, in mid-December, railroads were back at the commission for a one-year fuel-cost-related surcharge on traffic moving to, from, and within the West, and they were pointing again at problems related to regulatory lag. Even expedited procedures provided for in Ex Parte 311, their petition said, "create a lengthy time delay." By contrast, they said, ICC had adopted procedures that had enabled the trucking industry to recover fuel cost increases with "virtually no regulatory lag," and "just as the trucking industry has been permitted to recover the full amount of fuel cost increases, so should the railroads be permitted to fully recover" on such increases.

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The label goes on one of 1,000 grain cars Norfolk & Western is building at its Roanoke, Va., shops.

As for general rate increases, early in '79 the commission came out again for selectivity in boosting rates and ordered staff studies which would look toward development of legislative proposals. In late July, railroads filed for selective increases that would average 8% nationwide but provide revenue increases of substantially less than that when future hold-downs, exceptions, flagouts, and delays in winning intrastate rate boosts were taken into account. ICC granted the requested increases in October, to become effective Oct. 15, with only one major exception.

While these relatively modest rate increases were being processed, the industry could point to staggering rates of inflation bearing upon it. With 1967=100, the producer price index in October 1979 stood at 245.2, but even that paled beside the index of railroad material prices and fuel, which hit 404.7 with an annualized inflation rate (October 1978 to October '79) of more than 41%.

Merger and consolidation

Again in 1979, there was a fair amount of wheel-spinning in the railroad merger movement, but there was also a certain amount of accomplishment.

First, the accomplishment: ICC did approve Grand Trunk Western's acquisition of Detroit, Toledo & Ironton and control of Detroit & Toledo Shore Line, rejecting a competing joint application of Chessie System and Norfolk & Western (which the commission found to be anticompetitive and not in the public interest). ICC also closed the record on Burlington Northern-Frisco merger (though it did not make its decision, as some had expected it would, before the end of 1979).

Now, the wheel-spinning: Southern made news three times, first in calling off a study of the acquisition of Illinois Central Gulf, next in beginning consolidation studies with NW, and finally in participating in a decision to drop those talks. Chessie and Seaboard Coast Line Industries filed a proposal for consolidation, and that case moved expeditiously through ICC procedures, but at the same time the two companies warned that if demands for conditions made by Southern and NW were granted, then the Chessie-SCLI marriage might well be called off. In the West, there was hardly any activity at all, except for that activity related to the two bankrupts, Rock Island and Milwaukee Road.

In the West, Milwaukee Road made several agreements involving sale of trackage in the Northwest to other parties (including BN and Union Pacific). However, Milwaukee could not convey title immediately, because Congress, which had ignored the Rock Island problem, had not ignored Milwaukee; it had rammed through legislation that offered, among other things, an opportunity for a Milwaukee employee or employee-shipper group to acquire the road or parts of it.

The main western consolidation proceeding involved sale of Rock Island's route between eastern New Mexico and St. Louis via Kansas City to Southern Pacific, a sale opposed by other major western carriers but eventually supported by DOT/FRA. When RI was put under control of a directed-service carrier (Kansas City Terminal) late in '79, SP was made a participating carrier even though it is not one of KCT's owner lines, and SP later won temporary authority to operate the so-called Tucumcari line.

Meantime, still in the West, a number of observers went through 1979 wondering who would make a move next. Missouri Pacific had been saying that it was interested in merger or consolidation or acquisition; BN had its merger going with Frisco; SP had made its case for pickup of the RI line into Kansas City and St. Louis; but neither of the other two major western roads, Union Pacific and Santa Fe, had anything going.

Once 1980 dawned, though, merger watchers didn't have long to wait: The next one, on which an agreement in principle had been reached, could be Union Pacific plus Missouri Pacific—and that left observers with an even greater wonder to ponder: Where would all of this, if it all came to pass, leave Santa Fe?

Reorganization

After a railroad files for court protection under the Bankruptcy Act, a plan for reorganization is supposed to be filed—and the implication of the law is that it is supposed to be filed with some sense for timeliness.

The major cases pending in 1979 were

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those of Rock Island and Milwaukee Road—and for them timeliness seemed to have different definitions.

RI had been in bankruptcy since March 1975, and there had been delay after delay in presentation of a plan while RI continued to try to operate its entire system, pleaded (unsuccessfully) for federal financial assitance, and waited for the ICC to approve Southern Pacific's purchase of the Rock's line between eastern New Mexico and St. Louis via Kansas City (a deal that would bring RI well over $50 million in cash).

Finally, on Dec. 28, 1979, RI's trustee put a plan before the court—after the Rock had been struck by two unions in a dispute over retroactive pay, DOT and ICC had found RI cashless, and the commission had directed Kansas City Terminal to assume responsibility for providing service over the Rock's lines. In the eventual shoot-out, six of RI's top officers were released, and SP later won what was called temporary authority to operate over the lines it coveted (along with others), which led to an interesting question for SP: With only temporary authority, no guarantee that authority would be made permanent, and the expectation that a final approval would be challenged, how much could SP afford to gamble on rehabilitation of RI lines that badly needed rehabilitation? At year-end, RI was operating—courtesy of KCT and SP—and its reorganization plan indicated that about two-thirds of the system should be picked up by other carriers or simply abandoned.

For Milwaukee, things seemed simpler, even if they weren't. Milwaukee's trustee had moved quickly to get an assessment of what could survive and what couldn't, and shortly after midyear they filed a plan that called for deep cuts in system mileage. Though government had ignored RI, it virtually adopted Milwaukee, and the result was legislation that stopped the bankruptcy court from giving an OK to an embargo while an employee-shipper group was given a chance to make its proposal for a take-over. The ICC got the employee-shipper plan, looked at it, and decided that it was no go. That decision, handed down unanimously on Dec. 31, 1979, opened the way for Milwaukee to cut back to the "Milwaukee II" envisioned in the preliminary reorganization plan filed months earlier.

In both cases, for RI and Milwaukee, further court proceedings were scheduled for January, and it would be a lot farther into 1980 before final decisions were reached and implemented.

Management-labor

On the national scene, 1979 was one of the quietest years in recent history in railroad management-labor relations—but it was still a year that could have long-term implications, in large part because of the precedents set in connection with strikes by two unions against Rock Island.

Nationally, only two agreements remained to be reached as '79 began, one involving the Brotherhood of Railway and Airline Clerks and the other concerning the tiny American Train Dispatchers' Association. BRAC and the railroads came to a settlement early in the year, but with ATDA—which represents fewer than 1% of railroad employees—it was a different story. That dispute went to an emergency board in May, but once the board set to work, agreement came quickly; it was the first time, the National Mediation Board said, that a national contract dispute was mediated to a settlement by an emergency board within the 30-day period in which a board is supposed to hear a case and prepare its report.

Then there was the situation involving Rock Island. In 1977, bankrupt RI had told union representatives that it would pay wage rates negotiated nationally, but with no retroactivity; unions that signed up by the end of '77, the Rock said, would get whatever was negotiated effective Jan. 1, 1978, but unions settling later would get the new rates at the time they signed agreements. Some unions made agreements before the end of '77, and a number of others waived retroactivity when they settled in '78. Two unions—BRAC and the United Transportation Union—were still outside as 1979 began, and finally the Clerks went on strike, to be followed one day later by UTU. Rock Island tried to do what Norfolk & Western had done a year earlier—maintain operations with supervisory personnel.

In the case of NW, that sort of operation succeeded, and the union was on the ropes when the walkout was finally ended after 82 days with creation of an emergency board. Rock Island, however, didn't have the supervisory manpower or the plant that NW had; still, it tried, and there were some who continue to insist that it was succeeding. What happened was that RI, already in bankruptcy for well over three years, was found to be cashless by DOT and the ICC, and the result was that ICC entered a directed-service order under which Kansas City Terminal was assigned to take over RI operations.

Before that directed-service order was issued, though, the President had created an emergency board to look into the disputes between RI and the two unions. Under the law, that action meant that employees were to return to work while the board carried out its responsibilities; it also meant that status quo antestrike existed, with RI making no changes and employees going back under wage rates and working conditions that were in existence before they walked out.

BRAC balked, and ICC, with support from DOT, authorized the directed-service carrier to pay the "prevailing wage" (not the one in existence when the walkout began) if that were the only way to get employees back to work. Lost in the shuffle, it appeared to some observers, was the law. Not lost, so far as some union observers were concerned, were the implications of what had happened. Through the years, one said, labor had relied on the status quo provision of Section 10 of the Railway Labor Act as a protection for labor—and now there was labor ignoring that provision and defying the law. His fear: Next time, it could be management, and the consequences could be severe (a judgment that other observers regarded as logical, if unrealistic in the political sense).

As a footnote to the RI-BRAC-UTU affair, Rock Island on Jan. 28, 1979, filed its reorganization plan with the court. It called for cuts of about 65% in RI employment.

A second footnote: At year-end an outside company was considering some form of acquisition of a large part of the bankrupt Milwaukee Road in Montana, Idaho, and Washington, and one of its plans was said to be a railroad operation that wouldn't accept standard agreements, an operation patterned more after that existing on Florida East Coast.

For most of the industry, 1980 began with relative peace between management and labor—and with both sides looking toward an eventual resumption of talks at the national level which would produce the agreements becoming effective in 1981. The last time around, management had begun by concentrating on issues related to crew consist, and management made no progress; issues were still fuzzy in early 1980 for negotiations to begin much later, but there were some indications that while labor was still not ready to yield on consist it might listen to change in other areas.

Regulation

Spurred perhaps by the realization that Congress at some point would come up with some form of railroad deregulation legislation, the Interstate Commerce Commission spent a good part of 1979 working on several fronts to ease regulation.

One ease-up did come to pass when in late May the commission finally exempted from regulation the rail movement of perishables, traffic on which the railroad market share had been something under 10%. Almost immediately, business got better. At year-end, perishable traffic was up by about 30% overall, and there were strong indications that these increases represented just a scratching of the surface, with piggyback movement of perishables expected to show large and continuing gains.

As for TOFC/COFC generally, it too was getting a new look from the ICC, which decided in August to study a partial or even a complete regulatory exemption.

The commission was also rethinking its role in far-reaching matters involving car service and car hire. There appeared to be solid evidence that application of existing car service rules inhibits rather than encourages efficient use of equipment. And on car hire, the industry was making a strong case for elimination of incentive per diem, especially in view of the higher basic rates that went into effect in '79.

Fallout continued from the 4R Act and the ICC's reaction to it since it became effective in 1976. In theory, the legislation was supposed to provide regulatory reform and, specifically, to give railroads more flexibility in ratemaking. In practice, railroads and the commission became bogged down in trying to define one phrase, market dominance, and while they struggled through the semantic swamp other "reform" provisions got less than expected use.

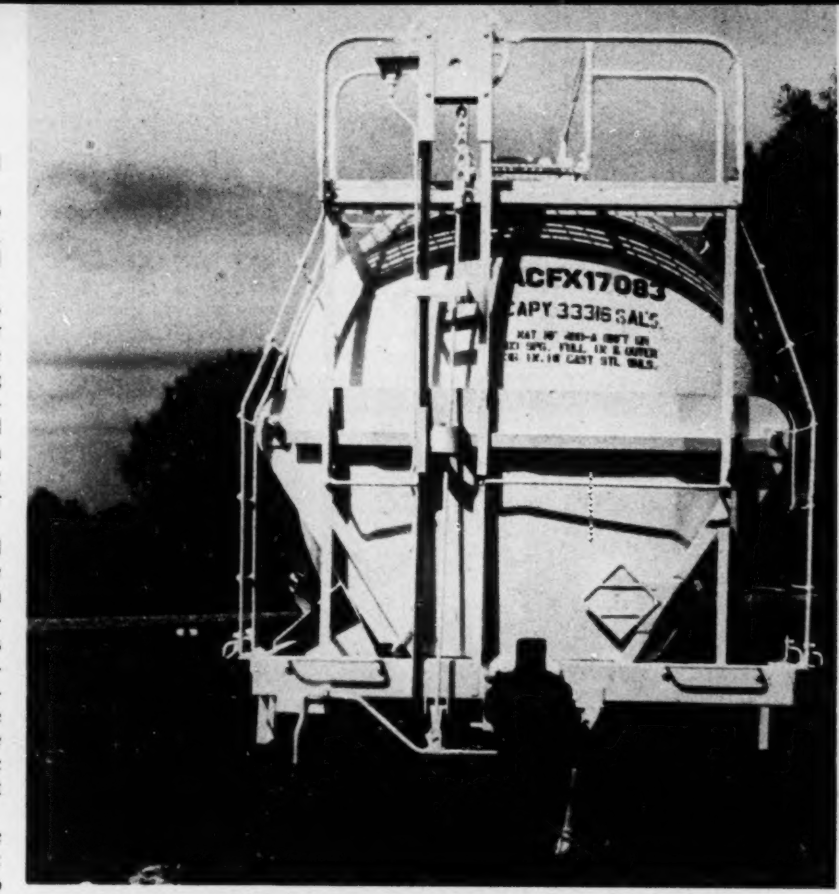
Early in '79, the AAR put the whole matter of the ICC and the 4R Act darkly: "The clear intent of the 4R Act was to lighten the railroads' regulatory burden [but] the commission recently has expanded its scope, intruding more widely into the day-to-day operations of the railroads."

As noted, however, the ICC did later move, or at least consider moving, in a number of areas related to regulation, and in September it even announced that it would reopen its proceeding on market dominance—an action taken after the commission received a study concluding that railroads have market dominance in only 5% to 15% of their markets.

In the meantime, the makeup of the commission changed considerably, and it would change even more in 1980, with both the chairman and the vice chairman leaving the ICC at the end of 1979.

If there were any year-end sum-up needed, especially of ICC handling of the 4R Act, it came in a lengthy report prepared for DOT, a report that took the commission to task for restrictive rulemaking and found that no significant use of the 4R Act ratemaking provisions could be expected so long as ICC's rules are in effect.

ICC is not, of course, the only agency with a hand in regulating railroads, and railroads felt the heavy hand in 1979 from several other governmental bodies, among them the Environmental Protection Agency. EPA came up with regulations on noise stemming from yard operations which carried compliance costs estimated at $91 million by EPA but at $533 million by the railroads. DOT/FRA were also active, with proposals such as one that would require the installation of high-intensity flashing lights on locomotives and, perhaps most importantly, with publication of new freight car safety standards to become effective Jan. 1, 1980.



A tank car retrofitted with shelf couplers, head shields, and thermal insulation in compliance with a government order applying to all tank cars that carry liquefied flammable gas or anhydrous ammonia.

Legislation

With deregulation of air transportation a fact of life, the Administration and Congress moved in '79 to apply a similar fix to railroading (and trucking)—and discovered that deregulation of these major freight haulers was a problem of substantially bigger proportions. At year-end, the Senate Commerce Committee had approved a railroad deregulation bill, and the House was planning to have a draft bill ready early in 1980. The railroads, while they found it possible (albeit with some reluctance) to support the Senate measure, remained concerned about the final form that deregulation would take.

The year began with DOT's then-secretary, Brock Adams, presenting a package of proposals and options to the White House. In March, after considerable debate, AAR directors adopted their proposal, a 14-point program that concentrated on ratemaking deregulation but also covered such areas as mergers, abandonments, car service and car hire, and intermodal ownership.

Within a matter of days, the Administration handed its proposal to Congress. In an accompanying memo, President Carter referred to the industry as the "backbone" of the country's industrial and agricultural production, and he warned that the railroads were facing a crisis that "could have grave consequences for our nation's economy." Regulatory change, he noted, would not solve the whole problem: "Only a complete overhaul of the nation's rail system, leading to higher labor productivity and more efficient use of plant and equipment, may be able to reverse current unfavorable trends." But, he said, without regulatory change there could be a "catastrophic series of railroad bankruptcies, sharply declining services, and massive federal expenditures."

The AAR applauded the Administration's initiative—but it also said that "very significant changes and additions to the proposal will be necessary if the industry is to move toward the financial stability necessary to sustain future rail service." In particular, AAR objected to proposed restrictions on restructuring, cutbacks in rate adjustment powers, and changes in the operation of rate bureaus.

Through the months that followed, the industry continued to work for a rational approach to deregulation, and it wound up endorsing the basic proposals contained in the Railroad Transportation Act of 1979, S. 1946, which had won Senate Commerce Committee approval without a dissenting vote. While the basics of the bill got an OK, the AAR still expressed concern about provisions such as one that afforded special protection to grain traffic in the area of demand-sensitive rates, and another that limited rates on recyclable commodities. Of special concern, however, was a proposal that did not appear in the committee bill: Pressures were being applied to put a severe restriction on the railroads' ability to adjust coal rates, and a battle on this issue seemed to be shaping up on the Senate floor when the legislation reached that stage.

While the Senate bill was principally a deregulation bill, there were some indications that what the House was looking at might be a far more comprehensive measure. At the very least, it appeared that the House approach and the Senate approach would be far enough apart that a lot of work would be needed before a compromise could emerge.

Among other legislative developments: Legislation giving coal slurry pipeline promoters the right of eminent domain got through one committee in the House and went before another, but there was no action planned in the Senate. After a series of exploratory hearings, it seemed likely that legislation would be introduced in 1980 to set up a railroad trust fund patterned after the user-financed Highway Trust Fund.

Transportation policy

In 1979, the National Transportation Policy Study Commission—created by Congress in 1976—laid a 528-page report on the President and Congress, a report that called loudly for less regulation and more capital investment. NTPSC's assignment was to develop transportation "needs, resources, requirements, and policies" for the nation through the year 2000. It concluded that what it termed the world's best transportation system "is in danger" and "may not be able to meet the needs of a growing America"—and that a lot of the blame for this can be laid at the feet of government. As the commission chairman put it, a "maze of federal agencies, congressional committees, and conflicting policies is driving up costs and retarding innovation."

Specifically, NTPSC recommended creation of a single federal transportation commission, consolidation of jurisdiction over all transportation programs within DOT, and similar consolidation within Congress (where some 30 separate committees now have some powers regarding transportation).

The commission's demand forecasts were staggering; they looked toward an increase in domestic freight ton-miles for all modes of up to 226% by 2000. Its more than 80 recommendations included these: Carriers should be able to adjust rates within a zone of reasonableness defined by Congress, with antitrust laws applying; easier market access and exit should be provided; federal and state regulations should apply equally to all modes; federal policy should encourage private ownership and operation through reliance upon marketplace forces; laws and regulations prohibiting or impeding common ownership should be wiped off the books; mergers should be allowed subject only to antitrust laws; transportation companies should be able to make abandonments effective in the absence of public or private subsidies; and users should pay charges that reflect the costs of their use of transportation facilities except where certain social and economic objectives are served, as in the case of mass public transportation.

NTPSC's recommendations were expected to be placed before Congress in legislative form in 1980. In the meantime, what happened in 1979 did little to refute what the commission had said—that there are too many agencies, with too much control, moving in too many directions.

Safety

In 1979, the basic railroad safety record continued to be good—but as in some past years, a series of closely spaced accidents that involved hazardous commodities and resulted in large-scale evacuations put the industry under the gun again.

Government-ordered retrofit of high-capacity tank cars that carry liquefied flammable gas and anhydrous ammonia, retrofit to include shelf couplers and head shields and thermal insulation, was moving ahead on schedule, the industry could report at midyear. But later, while it found that "the risk to the public of catastrophic accidents involving hazardous materials tank cars has been reduced significantly," the National Transportation Safety Board said there were still "serious safety problems," and it put out a recommendation to DOT that would require smaller tank cars carrying hazardous materials to be equipped with shelf couplers by the end of 1980.

Since it was formed, NTSB has made many recommendations, many of which ended up in a DOT/FRA file. One of its proposals in '79 was particularly intriguing for those concerned with both safety and management-labor relations. In a report on a Conrail two-train accident, NTSB called for installation of an improved dead-man control and use of a backup system to insure that signal indications were followed. Finding that in this case the engineer and head brakeman "were not alert," it suggested that the conductor be placed on a freight train in such a way that he be best able to supervise train safety (which could mean that the conductor ought to be in the cab instead of the caboose).

Meanwhile, Harriman safety awards went to Southern, Boston & Maine, Florida East Coast, and Kansas City Terminal, for 1978 employee-safety performance. Also, a number of railroads moved to get greater public as well as employee involvement in safety promotion, for example, Union Pacific with its slogan contest and campaign and Frisco with a management-by-objectives program for safety.

Conrail

In the category of "They said it couldn't be done, but. . .", there was Conrail in 1979. there were the usual slings and arrows, criticisms and critiques. But through the first nine months of the year, CR managed to reduce its losses by 31% as compared with 1978—and in the second quarter of '79, Conrail did what some cynics thought it could never do: It showed a net income instead of a deficit. Conrail attributed its improved showing to increases in freight rates, to increases in revenues per carload, to a reduction in number of employees, and to the improved condition of equipment and plant.

Conrail was still not out of the woods by any means, and both FRA and the United States Railway Administration (Conrail's overseer) were looking hard at the still-troubled northeastern carrier. One point to be considered: Of $3.3 billion authorized for CR, well over $2.6 billion was to have been invested by the end of last year. Toward the end of the year, however, USRA approved an additional investment, and its expenditure would bring the total through the first quarter of 1980 to more than $2.9 billion.

Meanwhile, CR continued a policy not to abandon "active" lines, pending the outcome of congressional consideration of regulatory reform in early 1980.

Passenger service

Amtrak had a few things going for it in '79. More people were riding trains, with patronage hitting 21.5 million riders during the fiscal year, up by 14% from the previous year. Those people had better trains to ride, as late in '79 Amtrak put the first of its new bilevel Superliner cars into revenue service between Chicago and the West Coast.

At the same time, though, Amtrak riders had fewer trains to ride, thanks to cutbacks in service resulting from elimination of a number of intercity trains and the consolidation of others (the cutbacks which were still less than those originally proposed by the Administration).

From a financial standpoint, Amtrak also showed an improvement, although a black number on the bottom line was still in the "if ever" category. For the fiscal year, Amtrak, with a 22% gain in revenues, posted a revenue-to-expense ratio of 41.5%, three points better than the 38.5% recorded in 1978. ■

Review of 1979

Car and locomotive orders

1979 FREIGHT-TRAIN CAR ORDERS

Purchaser	No.	Type	Capacity (tons)	Order Date	Delivery Date	Builder
Apalachicola Northern	30	Woodchip hopper	100	Dec.	1980	Greenville
Arthur Farmer Grain Elevator Co.	15	Cov. hopper	100	Sept.	—	FMC
Ashley, Drew & Northern	100	Woodchip hopper	100	Jan.	Mar. '80	Thrall
Atchison, Topeka & Santa Fe	150	Box	100	—	July '80	FMC
	358	Box	100	—	Mar.-Apr. '80	PACCAR
	400	Box	100	—	July-Sept. '80	Co. shops
	450	Crosshopper	100	—	Feb., '80	Greenville
	440	Cov. hopper	100	—	July '80	Pullman Std.
	4	Flat	250	—	Feb. '80	Maxson
	43	Artic. flat	—	—	Apr. '80	Co. shops
	50	Trilevel rack	—	—	Jan. 80	Whitehead & Kales
	50	Caboose	—	—	Mid '81	International Car
	20	Airdump	70	—	May '80	Difco
	100	Tank	100	—	Oct. '80	Trinity Ind.
Bechtel	23	Gondola	105	May	Jan. '80	Berwick
Bessemer & Lake Erie	200	Gondola	100	Aug.	May '80	ACF
Boston & Maine	200	Box	70	Aug.	Sept.	PACCAR
	100	Box	70	Feb.	Mar.	Pullman Std.
	25	Box	100	Aug.	Oct.	FMC
Brae	100	Box	70	May	Apr. '80	Berwick
	85	Flat	100	June	1980	Bethlehem
Bucyrus-Erie	20	Cov. hopper	100	Oct.	Nov.	Greenville
Burlington Northern	650	Hopper	100	Jan.-Aug.	Apr.-May '80	Bethlehem
	66	Ins. box	100	Aug.	Jan.-Mar. '80	PACCAR
	75	Caboose	100	Aug.	Jan. '80	International Car
	1,100	Cov. hopper	100	Aug.-Dec.	Jan.-Mar. '80	FMC
	400	Box	70	Aug.	Apr.-May '80	PACCAR
	100	Woodchip gondola	100	Aug.	July-Sept. '80	Thrall
	50	Tank	100	July	Feb.-May '81	ACF
	10	Airdump	100	Dec.	Aug. '80	Difco
Chessie	750	Cov. hopper	100	May	Mar.-May '80	ACF
	160	Caboose	—	Dec.	1980	FGE
	312	Enc. Trilevel rack	—	July	Jan.-Mar. '80	Whitehead & Kales
Chicago & North Western	300	Gondola	100	Aug.	Apr.-June '80	Evans
	350	Cov. hopper	100	Nov.	Apr.-June '82	ACF
Chicago, Rock Island & Pacific	550	Box	70	—	Aug.-Sept. '79	Pullman Std.
Chicago Freight Car Leasing Co.	800	Cov. hopper	100	Mar.-June	Oct. '80-June '82	Pullman Std.
Clinchfield	9	Trilevel auto rack	60	Jan.	Nov. '79-Mar. '80	Whitehead & Kales
	2	Bilevel auto rack	60	Aug.	Nov.	Whitehead & Kales
	4	Air side dump	100	Aug.	Aug. '80	Difco
	100	Cov. hopper	100	Oct.	Nov. '80	Pullman Std.
	150	Box	70	Nov.	Dec. '80	Pullman Std.
Conrail	330	Hopper	100	Oct.	Nov.	Bethlehem
	300	Coil steel	100	Sept.	May '80	Portec
	220	Triple hopper	100	Sept.	Nov. '79-Jan. '80	Greenville
	335	Box	100	1979	1980	FGE
CPS Board of San Antonio	6	Coal hopper	100	July	Jan. '80	Thrall
Delaware & Hudson	200	Gondola	100	Sept.	Jan.-Feb. '80	Bethlehem
	100	Coal hopper	100	Dec.	Mar. '80	Trinity Ind.
Denver & Rio Grande Western	300	Hopper	100	Sept.	July '80	—
	50	Gondola	100	Sept.	June '80	—
Elgin, Joliet & Eastern	300	Gondola	100	Aug.	May '80	ACF
Emons	500	Gondola	100	May	Jan.-Mar. '80	Berwick
Federal Paper Bd.	3	Woodchip gondola	100	Jan.	July	Greenville
Florida East Coast	54	Trilevel auto rack	90	Jan.	Dec.	Whitehead & Kales
	24	Ins. box	70	Oct.	Dec.	FGE
	4	Box	70	Nov.	Nov.	FGE
Fort Worth & Denver	100	Cov. hopper	100	Sept.	—	FMC
GATX	230	Hopper	100	Jan.	1980	Bethlehem
Genesee & Wyoming	700	Gondola	100	1979	Dec. '79	Pullman Std.
Georgia	75	Box	70	Nov.	Dec. '80	Pullman Std.
Georgia Pacific	200	Woodchip hopper	100	Jan.	Jan. '80	Thrall
Grand Trunk Western	100	Cov. hopper	100	Oct.	1980	Greenville
	100	Cov. hopper	100	—	1981	Pullman Std.
Granite Rock Co.	45	Twin hopper	100	Jan.	Oct.	Greenville
Great American	100	Gondola	100	Dec.	—	Bethlehem
Illinois Central Gulf	200	Woodchip hopper	70	Jan.	Nov.-Dec.	Co. shops
	300	Cov. hopper	100	Feb.	Jan.-Mar. '80	Pullman Std.
	350	Bulkhead flat	100	Mar.	Oct.-Dec. '80	Portec
	800	Coal hopper	100	Aug.	May-Aug. '80	Co. shops
	150	Gondola	100	Aug.	Sept.-Oct. '80	Co. shops
	100	Pulpwood	70	Oct.	Nov.-Dec. '80	Co. shops
Illinois Terminal	200	Box	70	—	Oct.	Pullman Std.
Interpool	100	Box	70	June	—	FMC
Kansas City Southern	100	Triple hopper	100	May	1980	Greenville
	100	Gondola	100	May	1980	Greenville
	100	Cov. hopper	100	Mar.	Aug. '80	Thrall
Kennecott Copper	18	Airdump	100	July-Sept.	Jan.-Mar. '80	Difco
Lake Erie Franklin & Clarion	100	Triple hopper	100	July	1980	Greenville
Leasing Co.	6,350	Various	—	1979	—	—
Louisville & Nashville	35	HiRoof box	70	May	Aug.-Sept. '80	International Car
	144	Trilevel auto racks	60	Aug.	Feb.-Mar. '80	Whitehead & Kales
	1,000	Hopper	100	Sept.	Mar.-June '80	Bethlehem
	100	Box	100	Oct.	Sept. '80	Pullman Std.
	950	Cov. hopper	100	Oct.	Nov.-Dec. '80	Pullman Std.
	1,300	Hopper	100	Dec.	Oct. '80-Mar. '81	Chessie Sys.
Maine Central	500	Box	75	Jan.	Jan.-Mar. '81	FMC
	2	Caboose	—	Jan.	Jan.-Mar. '80	International Car
Missouri Pacific	1,000	Cov. hopper	100	Feb.	Jan. '80	ACF
	500	Hopper	100	Jan.	June '80	Bethlehem
	100	Caboose	50	Sept.	July '80	Co. shops
	47	Box	70	Dec.	July '80	PACCAR
	200	Woodchip hopper	100	June	Nov. '80	Greenville
	28	Box	100	Dec.	July '80	FGE
Missouri Pacific Public Service Co.	20	Flat	70	Feb.	Oct.	Bethlehem
New Hope & Ivyland	200	Box	100	Jan.-Aug.	—	FMC
Norfolk & Western	12	Side dump	100	Jan.	Aug.-Sept.	Difco
	300	Cov. hopper	100	May	Mar.-May '80	Portec
	164	Hopper	100	June	Sept.-Oct.	Co. shops
	278	HiCube box	100	Sept.	Jan.-Sept. '81	Greenville
	228	Trilevel rack	70	Oct.	Apr.-July '80	Whitehead & Kales
	23	Bilevel rack	70	Oct.	July '80	Whitehead & Kales
North American	5,000	Cov. hopper	100	July	1979-80	Ingalls Shipbuilding
	500	Cov. hopper	100	Feb.	Feb.-Apr. '80	Hawker Siddeley
Oklahoma Gas & Electric	130	Coal hopper	100	Jan.	Aug.	Thrall

Editor's note: Information on freight-car orders placed in 1979 was provided to *Railway Age* by both purchasers and builders. Some companies were unable to supply information for competitive, financial, or other reasons. There may be some duplications due to inconsistent reporting methods.

Purchaser	No.	Type	Capacity (tons)	Order Date	Delivery Date	Builder
Operating Lease Services	100	Box	70	Feb.	1981	Berwick
PLM, Inc.	440	Gondola	100	1979	Oct.-Dec. '80	Bethlehem
	710	Cov. hopper	—	1979	Jan.-Aug. '80	Portec
	115	RD hopper	—	1979	Oct.-Dec. '80	Ortner
	10,000	Cov. hopper	100	Sept.	Feb.'80-Dec.'89	Ry. Services Corp.
Patapsco & Back Rivers	25	Gondola	100	Aug.	1980	Bethlehem
Philadelphia, Bethlehem & New England	200	Gondola	70	May	1980	Bethlehem
Pittsburg & Shawmut	200	Hopper	100	June	Sept. '80	Bethlehem
Pittsburgh & Lake Erie	500	Triple hopper	100	Sept.	Oct.'79-Jan.'80	Greenville
	800	Gondola	100	Dec.	1980	Greenville
Railbox Co.	700	Box	70	Apr.-June	July-Dec. '80	PACCAR
	1,750	Box	70	May-June	Apr.-Sept. '80	Pullman Std.
	500	Box	70	May	Aug.-Sept.'80	ACF
	500	Box	70	Feb.	Apr.-June '80	Berwick
	1,500	Box	70	Jan.-Apr.	Jan.-Sept. '80	FMC
Railpool	200	Box	70	Feb.	Apr.-May	Berwick
Reserve Mining	10	Airdump	100	Dec.	Apr.-June '80	Difco
Rex Rys.	200	Box	70	Mar.	Sept.	FMC
	100	Cov. hopper	100	Jan.	Jan. '80	FMC
	400	Box	70	July	Oct.	Pullman Std.
	150	Cov. hopper	100	Sept.	Aug. '80	Pullman Std.
	800	Cov. hopper	100	Nov.	July '80	Marine Ind.
Richmond, Fredericksburg & Potomac	100	Box	70	May	Oct.-Dec.	Pullman Std.
	100	Box	100	May	Oct.-Dec. '81	FMC
Sandersville	200	Box	70	—	Sept.-Oct.	Pullman Std.
Shamrock Coal	26	Gondola	105	June	Dec.	Berwick
St. Louis Refrigerator Car Co.	250	RBL refrig.	100	Mar.	July-Sept. '80	PACCAR
St. Louis-San Francisco	225	Cov. hopper	100	Nov.	Jan.-June '80	Co. shops
	300	Cov. hopper	100	Nov.	July '80	Pullman Std.
	10	Gondola	70	Sept.	July-Dec. '80	Difco
St. Marys RR	60	Flat	100	Jan.	Dec.	Bethlehem
	555	Box	70	1979	1979	ACF
	400	Box	70	Feb.	Dec.'79-Jan.'80	Pullman Std.
Seaboard Coast Line	199	Bilevel auto rack	60	Jan.-Aug.	Oct.-Dec.	Whitehead & Kales
	59	Trilevel auto rack	60	Jan.-Aug.	Nov.'79-Mar.'80	Whitehead & Kales
	200	Box	100	Oct.	Aug.-Sept.'80	Pullman Std.
	950	Cov. hopper	100	Oct.	May-Nov.'80	Pullman Std.
	800	Box	70	Nov.	Aug.-Oct.'80	Pullman Std.
	30	Tank	100	Nov.	Sept.-Oct.'80	North American
Soo Line	575	Cov. hopper	100	—	Dec.'79-Feb.'80	Pullman Std.
	100	Gondola	100	—	Feb. '80	Thrall
	50	Flat	70	—	Jan. '80	Thrall
	40	Bulkhead flat	100	—	Dec.	Thrall
	113	Box	70	—	Apr.-July	Co. shops
Southern	12	Caboose	50	Apr.	Dec.	FGE
	400	Ins. box	70	May	Dec.'79-Mar.'80	FGE
	500	Box	70	May	Feb. '80	Pullman Std.
	400	Gondola	70	Apr.	Feb. '80	Greenville
	100	Cov. coil	100	June	Oct. '80	Greenville
	500	Cov. hopper	100	May	July '80	Pullman Std.
	150	Woodchip hopper	100	May	June '80	Greenville
	800	Pulpwood flat	70	Apr.	Mar. '80	Greenville
	150	Woodchip gondola	100	Feb.	Apr. '80	Ortner
	120	Hopper	100	Feb.	July '80	Ortner
Southern Pacific and St. Louis Southwestern	550	Box	100	May	Apr.-Dec.'80	PACCAR
	250	Cov. hopper	100	May	July-Aug.'80	ACF
Southern Pacific and St. Louis Southwestern *(Cont.)*	75	Caboose	50	May	Feb.-May '80	International Car
	200	Flat	70	Aug.	Oct.-Nov.	ACF
	100	Gondola	100	Apr.	Feb.-Mar.'80	Greenville
Thayer, Ringoen & Macdonald	500	Gondola	100	May	1980	Greenville
Trailer Train Co.	2,400	Flat intermodal	70	Jan.-June	Dec.'79-Dec.'80	Bethlehem
	350	Bulkhead flat	100	June	July-Sept. '80	Bethlehem
	400	Flat intermodal	70	Aug.	Mar. '80	ACF
	450	Bulkhead flat	100	June	Oct.-Dec. '80	Thrall
	2,650	Flat intermodal	70	June-Sept.	Oct.'79-Sept.'80	Pullman Std.
	350	Auto rack flat	70	Aug.-Sept.	Feb.-Sept. '80	Pullman Std.
Union Pacific	400	Box	100	Aug.-Nov.	Oct.'80-Mar.'81	PACCAR
	900	Cov. hopper	100	Sept.	Oct.-Dec.'80	ACF
	900	Cov. hopper	100	Sept.	Oct.-Dec.'80	Pullman Std.
	100	Caboose	70	Dec.	Jan.-Mar.'81	International Car
	1,200	Hopper	100	July	Feb.-Oct.'80	Co. shops
United Equipment Leasing Assn.	200	Tank	100	Jan.-Sept.	Sept.'79-Sept.'80	Evans
Upper Merion & Plymouth	300	Box	70	Dec.	Jan. '80	Pullman Std.
U.S. Leasing Intl. and subsidiaries	1,000	Cov. hopper	100	Jan.-Nov.	Feb. '80	—
	350	Tank	100	Feb.-June	July'80-Oct.'81	—
	200	Gondola	100	Aug.	Apr.-May '80	—
	100	Flat	70	Aug.	Jan.-Mar.'81	—
	50	Hopper	100	Oct.	Apr.-May '80	—
	100	RBL refrig.	70	Nov.	Apr.-May '81	—
U.S. Ry. Leasing	400	Tank	100	Mar.-July	Nov.'79-June'80	Evans
	1,700	Box	70	Apr.-June	Nov.'79-Apr.'80	Evans
	1,550	Cov. hopper	100	Apr.-Dec.	Feb.-Nov. '80	Evans
	1,000	Gondola	100	June-Oct.	May-Dec. '80	Evans
U.S. Steel	58	Airdump	100	1979	Jan.-Mar. '80	Difco
Various industrial	1,575	Box	70	Jan.-Aug.	—	FMC
	150	Box	100	Apr.	—	FMC
	1,700	Cov. hopper	100	May-Dec.	—	FMC
	1,775	Cov. hopper	100	1979	1979	Pullman Std.
	4,026	Cov. hopper	100	1979	1980	Pullman Std.
	1,761	Cov. hopper	100	1979	1981	Pullman Std.
	615	Hopper	100	1979	1979	Pullman Std.
	200	Hopper	100	1979	1980	Pullman Std.
	400	Box	70	1979	1979	Pullman Std.
	500	Box	70	1979	1981	Pullman Std.
	7,760	Cov. hopper	100	1979	—	ACF
	100	Flat	70	1979	—	ACF
	1,851	Gondola	100	1979	—	ACF
	2,663	Tank	199	1979	—	ACF
	500	Cov. hopper	100	March	July '80	Portec
	3,010	Tank	—	1979	—	Various
	360	Gondola	100	May	Apr.-May '80	Berwick
	1,010	Box	70	May	July-Dec.'80	Berwick
	3,600	Various	—	1979	—	Name withheld
	1,154	Cov. hopper	100	Jan.-July	Mar.'79-June'81	Thrall
	1,000	Gondola	100	Jan.-Dec.	Mar.-May'80	Thrall
	50	Woodchip hopper	100	July	May '80	Thrall
	8	Cov. hopper	70	Mar.	Jan.'80	Thrall
	1,000	Gondola	100	Jan.	July '80	Thrall
	15	Box	70	1979	1980	FGE
	200	Flat	100	May	1980	Bethlehem
WCTU Ry	300	Box	70	Apr.	Feb.-Mar.'80	Berwick
	300	Box	70	1979	1980	Pullman Std.
Western Pacific	22	Bilevel	70	May	Nov.	Whitehead & Kales
	50	Cov. hopper	100	Feb.	Feb. '80	FMC
	6	Caboose	50	July	Apr.'80	International Car

Purchaser	No.	Type	Capacity (tons)	Order Date	Delivery Date	Builder
Wisconsin Electric	253	Gondola	105	Feb.	Dec.'79-Jan.'80	Berwick
Wisconsin Power	6	Coal hopper	100	Jan.	Aug.	Thrall
XTRA	200	Hopper	100	1979	1979	Trinity
	500	Cov. hopper	100	1979	Jan.-Mar.'81	Portec
	1,100	Cov. hopper	100	1979	Oct.'79-Nov.'80	Richmond Tank Car
	100	Cov. hopper	100	1979	June '80	FMC

1979 FREIGHT-TRAIN CAR ORDERS—CANADA

Purchaser	No.	Type	Capacity (tons)	Order Date	Delivery Date	Builder
British Columbia	400	Box	70	July '78	June-Dec.	Evans
	500	Box	70	May '78	Mar.-May	National Steel
	645	Bulkhead flat	100	May	Apr.-Aug.'80	Marine Ind.
Canadian General Transit	600	Cov. hopper	100	Feb.-Oct.	Jan.'80-Feb.'81	Hawker Siddeley
Canadian Ministry of Transport	2,000	Cov. hopper	100	—	—	—
Canadian National	200	Box	70	Jan.	Dec.'79-Jan.'80	National Steel
	150	Flat	100	Jan.	Aug.-Dec.	Marine Ind.
	200	Bulkhead flat	100	Mar.	Mar.-Apr. '80	Marine Ind.
	130	Box	100	May	Jan.-Feb. '80	FGE
	1	Flat	250	June	May '80	Davie Shipbuilding Ltd.
	100	Box	70	June	Oct.-Dec. '80	International Car
	65	Cov. hopper	100	May	May-June '80	Marine Ind.
	50	Caboose	—	—	Oct.-Dec.	Company Shops
	1,000	Cov. hopper	100	Dec.	1981	Marine Ind.
Canadian Pacific	122	Box	70	Jan.	June-July	FGE
	54	Gondola	100	Jan.-June	Nov.-Dec.	Hawker Siddeley
	35	Caboose	—	June	Jan.-Mar.'80	Co. shops
	200	Newsprint box	70	June	May-June '80	National Steel
	250	Gondola	100	June	July-Sept. '80	National Steel
	325	Flat	100	July	Oct.'80-Mar.'81	Marine Ind.
Canadian Wheat Board	800	Cov. hopper	100	Jan.	Oct.'79-Jan.'80	Hawker Siddeley
	1,000	Cov. hopper	100	Jan.	—	National Steel
	200	Cov. hopper	100	Jan.	—	Marine Ind.
Procor Ltd.	402	Cov. hopper	100	Jan.	Jan.-Mar.'80	Marine Ind.
	200	Bulkhead flat	100	May	Mar. '80	Marine Ind.
	200	Gondola	100	Nov.	Sept. '80	National Steel
	50	XP Box	100	Nov.	Mar. '80	National Steel
	100	Cov. hopper	100	Nov.	Apr. '80	National Steel

1979 DOMESTIC LOCOMOTIVE ORDERS

Purchaser	No.	Type	Horsepower	Order date	Delivery date	Builder
Armco Steel	2	B-B	1,000	1979	—	EMD
Alton & Southern	1	B-B	1,500	July	1980	EMD
American Steel Foundries	2	B-B	1,000	1979	—	EMD
Amtrak	35	B-B	3,000	1979	—	EMD
Atchison, Topeka & Santa Fe	15	B-B	2,250	1979	Mar.'80	GE
	24	C-C	3,000	1979	Mar. '80	GE
	30	B-B	3,500	1979	Oct. '80	EMD
	10	B-B	2,300	1979	Apr. '80	EMD
	45	C-C	3,000	1979	Nov. '80	EMD
	16	B-B	3,600	1979	Oct.-Dec. '80	GE
Belt of Chicago	2	B-B	1,500	Feb.	Feb.'80	EMD
Burlington Northern	120	C-C	3,000	Jan.-Sept.	July'79-Sept.'80	GE
	5	B-B	2,000	Oct.	Aug. '80	EMD
	195	C-C	3,000	July-Sept.	1980	EMD
Champion Intl.	1	B-B	1,000	—	—	EMD
Chessie System	110	B-B	3,000	Mar.-July	Jan.'80-Mar.'81	EMD
	49	B-B	3,000	Feb.-July	Jan.'80-Mar.'81	GE
Chicago & North Western	35	B-B	2,000	Oct.	Nov.-Dec.	EMD
	50	B-B	3,500	May	June '80	EMD
Clinchfield	3	C-C	3,000	Sept.	July '80	EMD
Delaware & Hudson	6	B-B	2,000	Dec.	Mar.-Apr. '80	GE
Denver & Rio Grande Western	16	C-C	3,000	1979	Mar. '80	—
Florida East Coast	2	B-B	3,000	Mar.	1979	EMD
	4	B-B	2,000	Mar.	1979	EMD
Grand Trunk Western	20	B-B	2,000	1979	1979	EMD
	5	B-B	2,000	1979	1980	EMD
Green Bay & Western	5	C-C	—	1979	Dec.'79-Jan.'80	GE
Gulf Oil	1	B-B	1,500	1979	—	EMD
Houston Belt & Terminal	5	B-B	1,500	1979	—	EMD
Kansas City Southern	4	C-C	3,500	1979	—	EMD
	2	B-B	3,000	1979	—	EMD
Lake Erie, Franklin & Clarion	1	B-B	1,500	1979	—	EMD
Louisville & Nashville	26	C-C	3,000	Feb.	Aug.-Nov.	EMD
	32	C-C	3,000	Sept.	May-Aug.'80	EMD
	14	B-B	2,000	Mar.	July-Aug.	EMD
	8	C-C	3,000	Oct.	Aug. '80	GE
	17	B-B	3,000	Oct.	Apr. '80	EMD
	20	C-C	3,000	Jan.	Aug.-Sept.	GE
Mississippi Export RR.	1	B-B	2,000	1979	—	EMD
Missouri-Kansas-Texas	10	C-C	3,000	Nov.	Oct. '80	EMD
Missouri Pacific	40	C-C	3,000	Apr.-June	Dec.'79-May'80	EMD
	80	B-B	2,000	June-Nov.	May-Nov. '80	EMD
	10	B-B	3,500	Nov.	Nov. '80	EMD
	40	B-B	2,250	July-Nov.	Dec.'79-June'80	GE
Norfolk & Western	25	C-C	3,000	July	Oct.-Dec.'80	EMD
RTA	18	B-B	3,000	1979	—	EMD
St. Louis-San Francisco	10	B-B	3,500	Sept.	July-Dec.'80	EMD
Seaboard Coast Line	21	B-B	2,000	Apr.-Oct.	Aug.'79-Aug.'80	EMD
	8	C-C	3,000	Oct.	June '80	EMD
	5	B-B	3,000	Oct.	July-Aug.'80	EMD
	17	B-B	3,000	Nov.	Mar.-June '80	GE
	10	C-C	3,000	Nov.	Mar.-Aug.'80	GE
Shamrock Coal Co.	8	C-C	3,000	1979	—	EMD
Soo Line	28	B-B	2,000	1979	May'79-Dec.'80	EMD
	12	C-C	3,000	Feb.-June	Dec.'79-June'80	EMD
Southern	70	C-C	3,500	Apr.	June '80	EMD
	6	B-B	2,600	Apr.	Nov. '80	EMD
	6	B-B	3,600	Sept.	Mar. '81	GE
	20	B-B	2,250	Sept.	Jan. '81	GE
Southern Pacific & St. Louis Southwestern	45	—	2,000	July	May-July '80	EMD
	110	—	3,000	July	Mar.-June '80	EMD
	15	—	2,250	Juy	June '80	GE
	30	—	3,000	July	Jan.-Apr.'80	GE
Taxas Mexican	1	B-B	2,000	May	July-Dec.'80	EMD
Union Pacific	160	C-C	3,000	May-June	Oct.'79-Mar.'80	EMD
	40	C-C	3,000	Sept.	Jan.-Mar. '80	GE
Western Pacific	10	B-B	3,000	June	Apr.'80	EMD

1979 LOCOMOTIVE ORDERS—CANADA

Purchaser	No.	Type	Horsepower	Order date	Delivery date	Builder
British Columbia	10	C-C	3,000	Nov.	Oct.-Dec. '80	GM Diesel
Canadian National	16	B-B Booster	—	Mar.	Mar.-May '80	GM Diesel
	40	C-C	3,000	Apr.-June	Dec.'79-80	GM Diesel
Canadian Pacific	35	C-C	3,000	Mar.	Oct.-Nov.	GM Diesel
	75	C-C	3,000	Dec.	Oct.'80-Mar.'81	GM Diesel
New Zealand	10	C-C	1,500	May	Sept. '80	GM Diesel

1979 EXPORT LOCOMOTIVE ORDERS

Purchaser	No.	Type	Horsepower	Order date	Delivery date	Builder
Chihuahua al Pacifico	2	B-B	2,000	1979	—	EMD
Foster Yeoman Ltd. England	1	B-B	1,000	1979	—	EMD
Moroccan National Rys.	3	C-C	3,000	1979	—	EMD
National of Mexico	31	C-C	3,000	1979	—	EMD
	105	C-C	3,000	1979	Sept.'79-Sept.'80	EMD
Northern Ireland Rys.	2	C-C	2,250	1979	—	EMD
Petroleos Mexicanos	2	B-B	1,000	—	—	EMD
South African Ry.	24	B-B	1,100	Sept.	Jan.-Mar. '81	GE
Taiwan	3	C-C	4,200	Nov.	Oct.-Dec. '80	GE

January 28, 1980

RAILWAY AGE

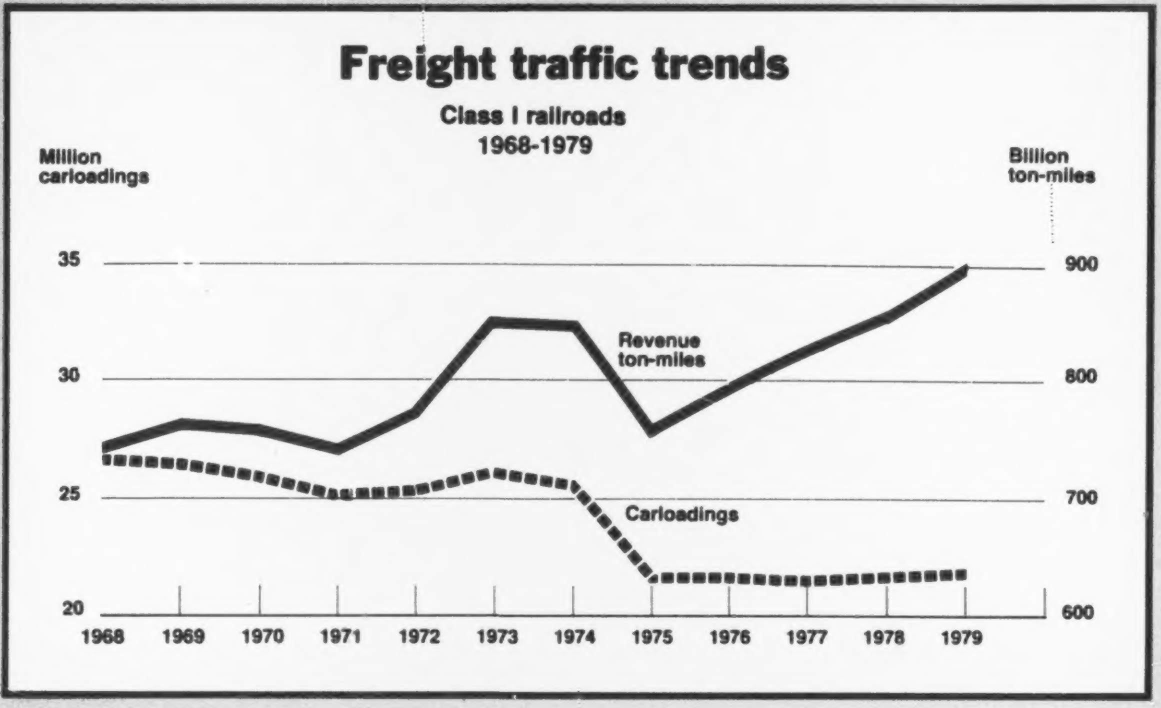
Pullman Standard

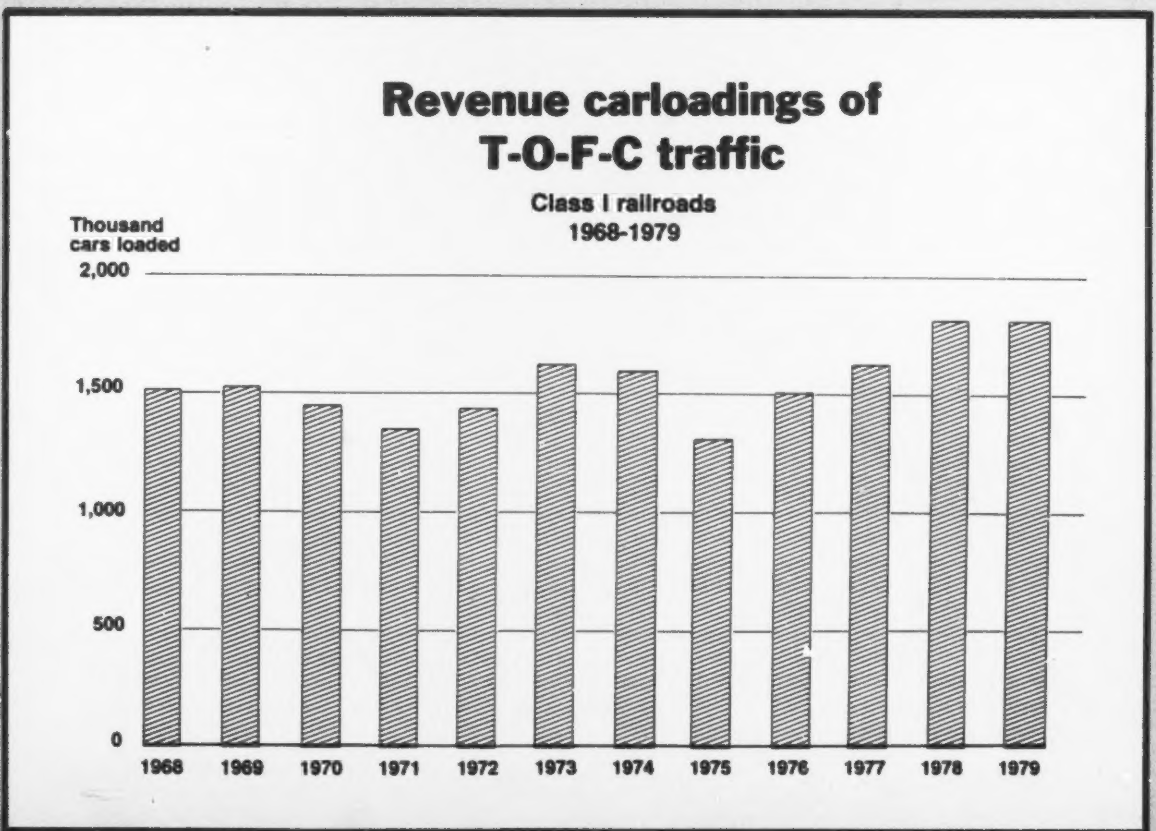
Railroads in the '70s

A statistical review

a

Traffic


Freight traffic trends
Class I railroads
1968-1979
Million carloadings
Billion ton-miles
35
30
25
20
900
800
700
600
Revenue ton-miles
Carloadings
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979


Revenue carloadings of T-O-F-C traffic
Class I railroads
1968-1979
Thousand cars loaded
2,000
1,500
1,000
500
0
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979

b

Carloadings by commodities 1979 vs 1978

Commodity	1979	1978		Incr. or Decr. 1979 vs 1978 Cars	Percent
Grain	1,428,170	1,340,254	I	87,916	6.6%
Other farm products	222,713	243,543	D	20,830	8.6
Metallic ores	1,765,494	1,710,477	I	55,017	3.2
Coal	5,254,337	4,427,722	I	826,615	18.7
Crushed stone, gravel and sand	853,479	954,892	D	101,413	10.6
Nonmetallic minerals	783,067	763,137	I	19,930	2.6
Grain mill products	917,154	972,038	D	54,884	5.6
Food and kindred products	953,397	990,488	D	37,091	3.7
Primary forest products	1,054,916	1,086,117	D	31,201	2.9
Lumber and wood products except furniture	596,620	648,859	D	52,239	8.1
Pulp, paper and allied products	1,096,595	1,093,814	I	2,781	0.3
Chemicals and allied products	1,488,167	1,439,191	I	48,976	3.4
Petroleum products	335,578	358,307	D	22,729	6.3
Stone, clay and glass products	943,730	962,252	D	18,522	1.9
Coke	359,676	375,384	D	15,708	4.2
Metals and products	983,835	966,396	I	17,439	1.8
Motor vehicles and equipment	1,122,309	1,261,174	D	138,865	11.0
Waste and scrap materials	713,116	711,617	I	1,499	0.2
Forwarder and shipper association traffic	642,103	623,665	I	18,438	3.0
All other carloads	2,341,234	2,400,254	D	59,020	2.5
LCL traffic	20,834	25,896	D	5,062	19.5
Total cars loaded	**23,876,524**	**23,355,477**	I	**521,047**	**2.2**

Freight and passenger traffic 1968-1979

Year	Revenue carloadings (thousands)	Piggyback carloadings (thousands)	Revenue ton-miles (millions)	Revenue passenger-miles (millions)
1968	28,253	1,510	744,023	13,110
1969	28,237	1,540	767,841	12,159
1970	27,160	1,450	764,809	10,740
1971	25,266	1,356	739,743	8,833
1972	26,105	1,448	776,746	8,558
1973	27,338	1,631	851,809	9,295
1974	26,184	1,610	850,961	10,333
1975	23,218	1,308	754,252	9,934
1976	23,457	1,506	794,059	10,304
1977	23,173	1,689	826,292	10,293
1978	23,355	1,841	858,105	10,222
1979	23,877	1,858	e902,000	e11,600

e Estimated

Note: Piggyback carloadings shown above include mail and express. Revenue passenger-miles include National Railroad Passenger Corp. (Amtrak) beginning with year 1971 and Auto-Train Corp. for years 1972-77.

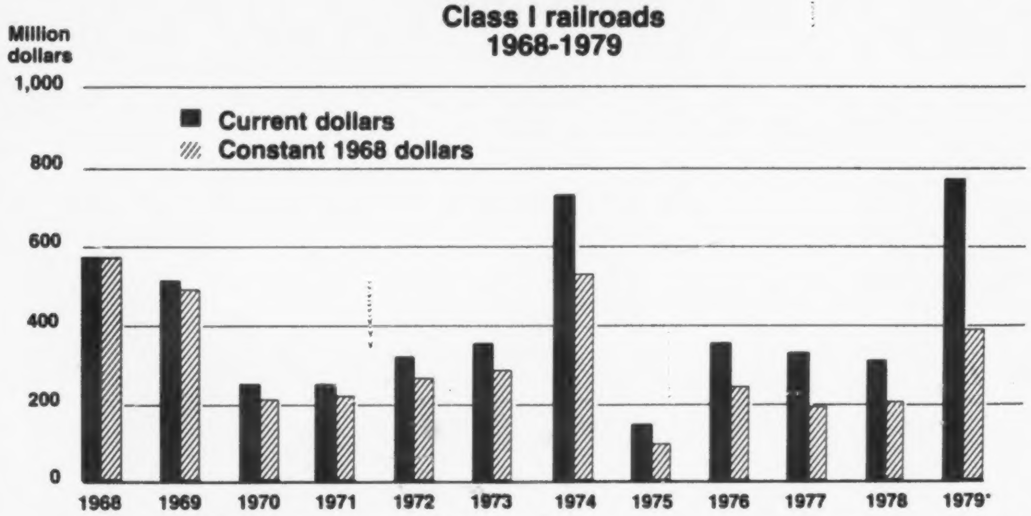
Methods of shipping motor vehicles from factories 1968-1979

Year	Vehicles shipped	Highway %	Railroad %	Boat %
1968	10,718,000	50.8	49.0	0.2
1969	10,147,000	48.2	51.7	0.1
1970	8,239,000	45.3	54.7	—
1971	10,638,000	47.5	52.5	—
1972	11,270,000	47.8	52.2	—
1973	12,637,000	48.0	52.0	—
1974	10,058,000	44.8	55.2	—
1975	8,985,000	46.4	53.6	—
1976	11,477,000	48.5	51.5	—
1977	12,639,000	49.3	50.7	—
1978	12,871,000	49.4	50.6	—
1979 (9 mos.)	8,921,000	50.5	49.5	—

Source: Motor Vehicle Manufacturers Association of the United States, except column 2 and 3 for 9 mos. 1979 estimated by AAR.

Earnings

Net income
Class I railroads
1968-1979



(Ordinary income before extraordinary and prior period charges and credits.)

*12 months ended Sept. 30

Condensed income account 1968, 1978, 1979

	1968 (millions)	1978 (millions)	12 mos. to 9/30/79 (millions)
Total operating revenues	$10,855	$21,721	$24,719
Total operating expenses[1]	10,170	21,043	23,584
Income taxes on ordinary income[2]	66	148	228
Provision for deferred taxes	—	93	145
Net railway operating income	678	427	785
Net ordinary income	569	307	775
Net income in constant 1968 dollars	569	202	395

Note: Data based on the new Uniform System of Accounts (U.S.O.A.), effective Jan. 1, 1978.

1. Operating expenses include rents and taxes other than income taxes.
2. Data for 1978 and 1979 include a small amount of state taxes.

Operating revenues 1968, 1978, 1979

	1968 (millions)	1978 (millions)	12 mos. to 9/30/79 (millions)
Freight	$ 9,989	$20,236	$22,937
Passenger	444	356	380
All other	421	1,129	1,402
Total	**$10,855**	**$21,721**	**$24,719**

Note: Mail and express included in freight revenue.

New and rebuilt equipment installed 1968-1979

Year	Freight cars	Passenger-train cars	Diesel-electric units
1968	68,568	103	982
1969	75,661	265	1,241
1970	75,136	318	1,093
1971	60,633	281	1,276
1972	49,983	347	1,577
1973	59,170	92	1,339
1974	67,409	100	1,282
1975	73,992	272	810
1976	53,630	358	568
1977	53,817	158	996
1978	70,458	44	1,378
1979 est	90,000	n.a.	1,900

n.a. Not available

Note: Freight-car installations include cars of all railroads and private car lines. Passenger-train car and diesel-electric unit installations include Amtrak and Auto-Train beginning in 1972.

Inventory of equipment 1968-1979

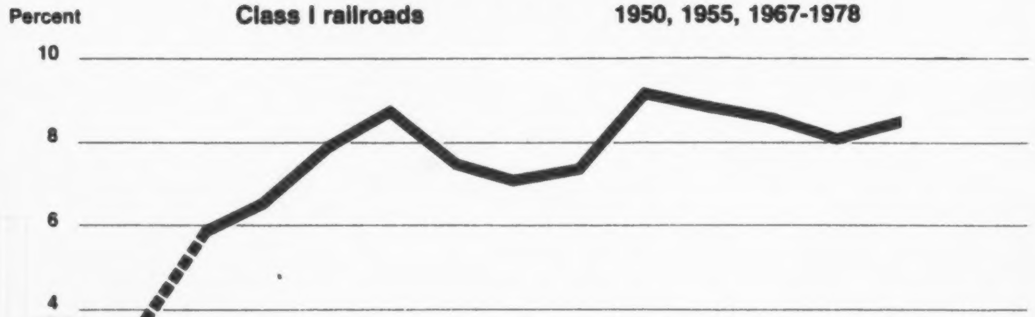
December 31	Freight cars*	Passenger cars (incl. Pullman)	Head-end passenger-train cars	Diesel locomotive units	Other locomotive units
1968	1,800,375	8,601	6,583	27,017	359
1969	1,791,736	8,343	4,083	26,174	319
1970	1,784,181	7,953	3,224	26,796	290
1971	1,762,135	6,804	1,909	26,897	292
1972	1,716,937	6,541	1,048	27,070	294
1973	1,710,659	6,270	919	27,550	250
1974	1,720,573	6,077	771	27,857	227
1975	1,723,605	5,834	637	27,846	225
1976	1,699,027	4,879	599	27,368	229
1977	1,666,533	4,907	605	27,450	217
1978	1,652,774	3,566	760	27,241	216
1979 est.	1,694,000	n.a.	n.a.	27,700	216

*All cars, railroad and private.

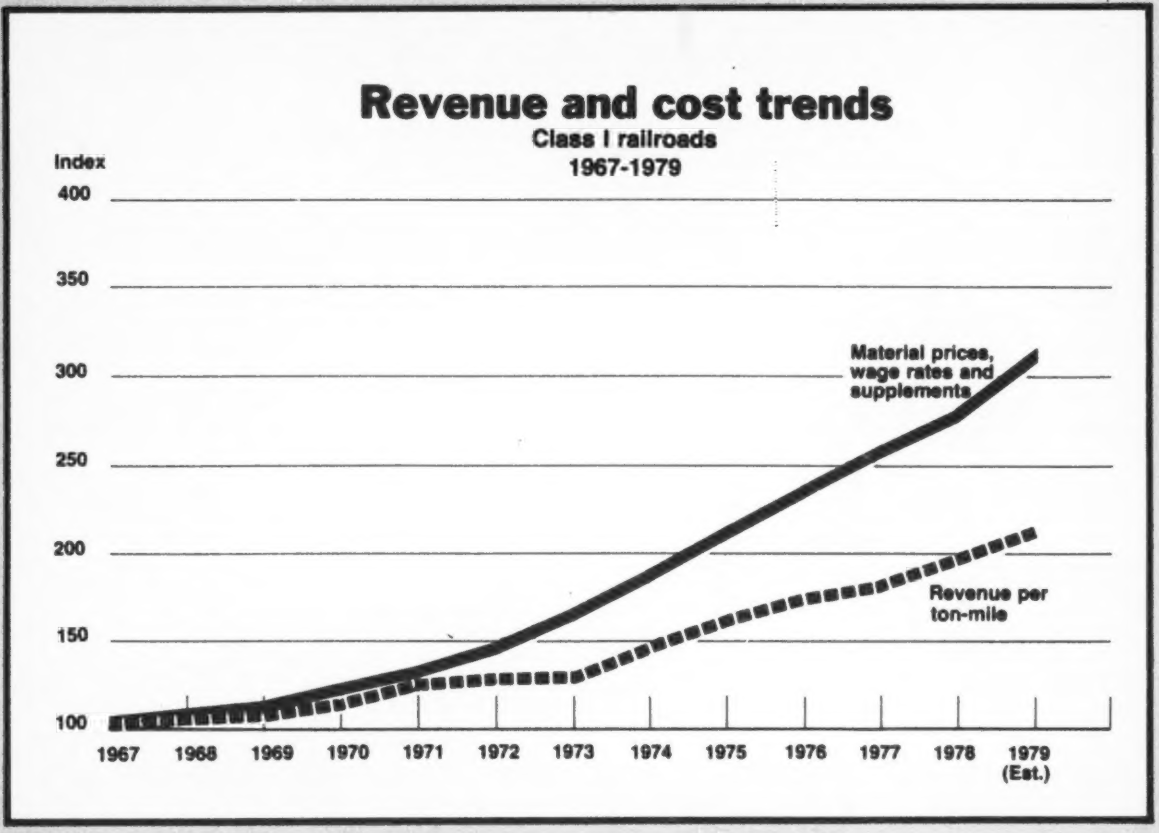
n.a. Not available.

Note: Figures shown for passenger equipment include National Railroad Passenger Corp. (Amtrak) beginning with 1971. Number of locomotives shown includes Amtrak beginning with 1972 and Auto-Train Corp. for years 1972-77. Beginning with the year 1972, the number of freight cars is based on a revised series. (TRAIN).

Average interest rates on equipment obligations issued

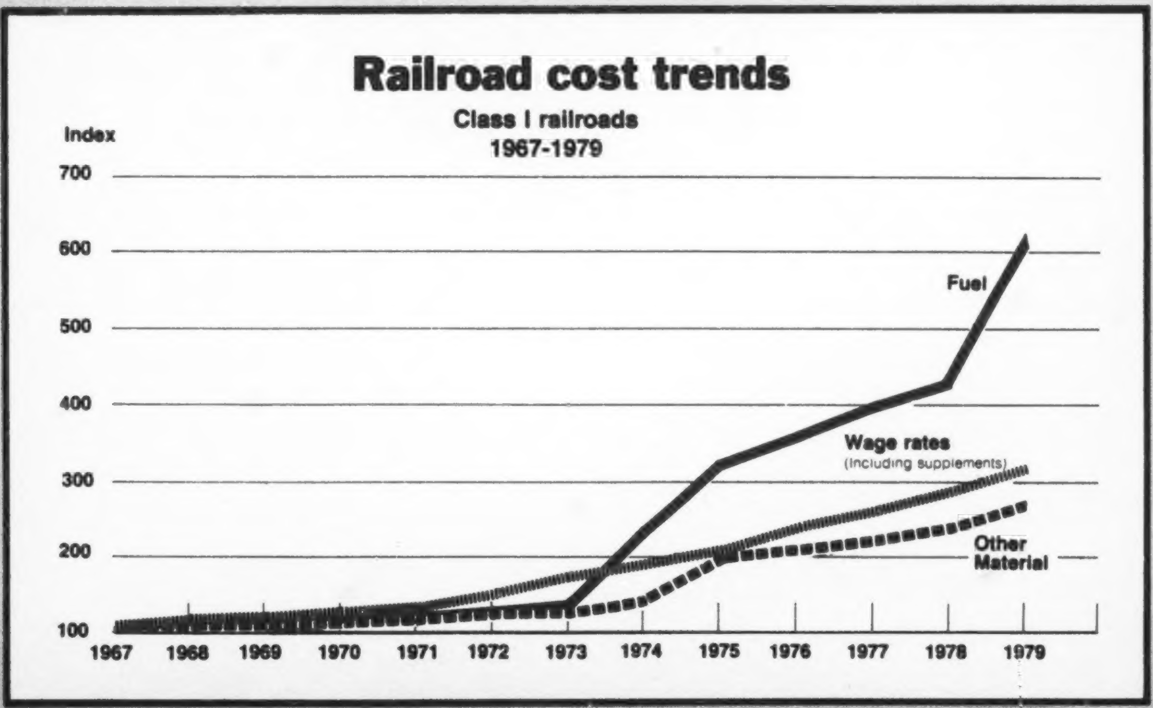


Costs



Revenue and cost trends

Class I railroads
1967-1979



Railroad cost trends

Class I railroads
1967-1979

F

Prices and revenue averages— 1967-1979

Year	Consumer price index (1967 = 100)	Producer price index for railroad equipment (1967 = 100)	Revenue per ton-mile (cents)	Revenue per passenger-mile (cents)
1967	100.0	100.0	1.269	3.195
1968	104.2	103.1	1.310	3.389
1969	109.8	108.8	1.347	3.608
1970	116.3	115.1	1.428	3.914
1971	121.3	121.1	1.593	4.306
1972	125.3	128.7	1.618	4.747
1973	133.1	134.7	1.617	4.756
1974	147.7	163.8	1.853	5.207
1975	161.2	201.2	2.041	5.396
1976	170.5	216.7	2.191	5.744
1977	181.5	233.5	2.286	5.916
1978	195.3	252.7	2.462	5.968
1979 est.	217.5	276.5	2.700	6.050

Note: Revenue per passenger-mile figures include Amtrak statistics beginning with 1971 and include Auto-Train for years 1972-77.

Trend in railroad fuel prices[a]

(cents per gallon)

Year	U.S.	East	South	West
1968	9.29	9.59	10.42	8.81
1969	9.58	9.84	10.44	9.23
1970	9.92	10.13	10.62	9.68
1971	10.29	10.70	10.98	9.92
1972	10.52	10.92	11.27	10.14
1973	12.26	12.74	12.94	11.84
1974	24.43	25.19	25.06	24.01
1975	28.91	30.05	29.75	28.09
1976	31.44	32.55	32.31	30.67
1977	34.99	36.81	36.18	33.77
1978	36.54	38.48	37.50	35.36
1979	72.68	72.18	70.05	73.69

[a] Yearly averages based on AAR Fuel Index. December 3, 1979 prices based on Ex Parte No. 311 questionnaire responses from all Class I railroads.

Annual rates of inflation 1978-1979

(1967 = 100)

Month	Producer price index	Consumer price index	Index of railroad material prices and fuel
1978			
April	206.4	191.4	279.5
May	207.9	193.3	—
June	209.4	195.3	—
July	210.6	196.7	281.5
August	210.4	197.7	—
September	212.3	199.1	—
October	214.9	200.7	286.8
November	215.7	201.8	—
December	217.4	202.9	—
1979			
January	220.8	204.7	296.3
February	224.1	207.1	—
March	226.7	209.3	—
April	230.0	211.8	316.9
May	232.0	214.3	—
June	233.5	216.9	—
July	236.6	219.4	367.3
August	238.1	221.5	—
September	241.7	223.7	—
October	245.2	225.6	404.7
Annualized rate of inflation 10/78-10/79	14.1%	12.4%	41.1%

G

Compensation

Index of wage rates and material prices 1967-1979

(Average 1967 = 100)

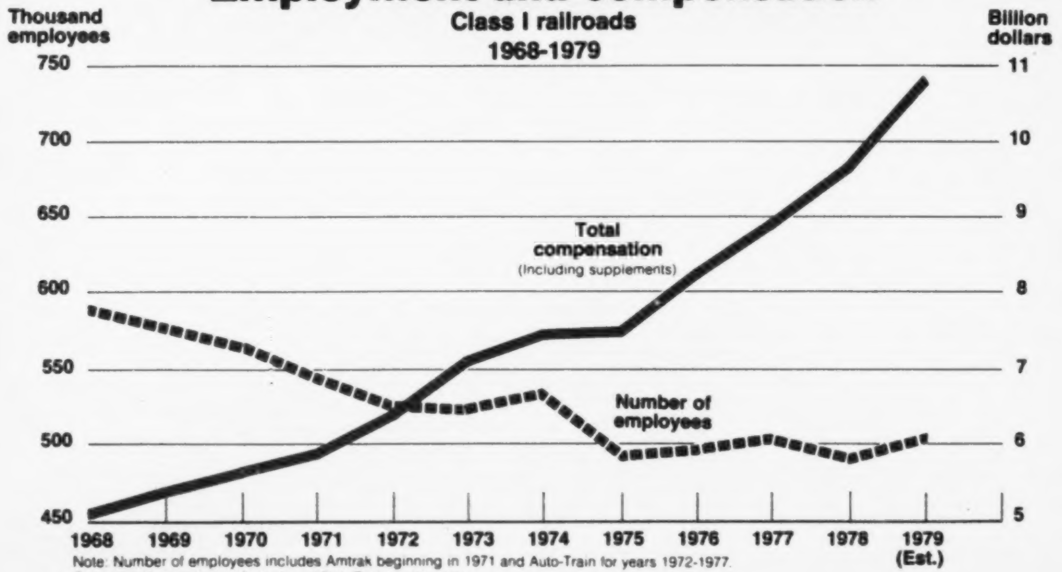
Year	Wage index	Wage sales and supplements	Fuel	Price index other material	Total material	Index of wage rates and prices	Wage rates and prices including supplements
1967......	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968......	105.1	106.3	103.5	102.6	102.7	104.7	105.7
1969......	112.2	113.6	106.7	105.5	105.8	110.9	112.3
1970......	122.7*	125.6*	110.5	109.4	109.7	120.2*	123.0*
1971......	136.8*	139.4*	114.6	113.5	113.7	131.2*	133.7*
1972......	149.5	153.4	117.1	118.7	118.1	141.8	145.6
1973......	164.4	173.9	136.5	122.9	126.7	155.2	163.5
1974......	173.4	189.1	272.0	142.1	178.9	174.7	186.8
1975......	190.8*	207.1*	321.9	190.2	227.2	202.2*	212.6*
1976......	210.7	232.0	350.1	203.2	244.5	221.3	235.4
1977......	227.3	251.6	389.6	217.2	265.3	239.2	255.4
1978......	250.0	276.5	406.9	230.6	279.9	259.4	277.4
1979 (prel).	275.1	302.8	606.7	252.5	348.0	297.9	315.2

*Reflects inclusion of retroactive wage increases.

Employment and compensation

Class I railroads

1968-1979



Note: Number of employees includes Amtrak beginning in 1971 and Auto-Train for years 1972-1977. Compensation excludes Amtrak and Auto-Train in all years.

Employees and their compensation 1968-1979

					Average straight-time	
Year	Number of employees 1	Number of employees 2	Total payroll (1000s)2	Average annual earnings per employee1	Hourly rate2	Hourly earnings2
1968	—	590,536	$5,110,636	$ 8,654	$3.47	$3.74
1969	—	578,227	5,362,754	9,274	3.70	4.00
1970	—	566,282	5,711,280*	10,086*	4.05*	4.35*
1971	544,497	544,333	5,999,968*	11,023*	4.52*	4.84*
1972	527,235	526,061	6,424,920	12,213	4.94	5.32
1973	524,422	520,153	7,083,338	13,627	5.43	5.83
1974	533,277	525,177	7,475,834	14,235	5.72	6.16
1975	494,348	487,769	7,474,000*	15,324*	6.30*	6.77*
1976	496,491	482,882	8,278,400	17,144	6.96	7.49
1977	501,389	482,731	8,939,400	18,518	7.51	8.15
1978	491,254	471,519	9,700,600	20,573	8.25	8.85
1979 est....	505,300	485,600	10,975,000	22,600	9.08	9.76

* Adjusted to include retroactive increases.

1 Includes Amtrak beginning in 1971 and Auto-Train for years 1972-77.

2 Excludes Amtrak and Auto-Train.

h

Market

CARLOADINGS

Loadings of revenue freight in the week ended Jan. 5 totaled 368,685 cars, according to the Association of American Railroads. This was an increase of 32,775 cars, or 9.8%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Jan. 5 are estimated at 14.4 billion, an increase of 13.1% above the corresponding week of 1979. Both weeks included the New Year's Day holiday.

PIGGYBACK LOADINGS

U.S. piggyback loadings for the holiday week ended Dec. 29, 1979, totaled 22,614 cars (15.3% below the corresponding holiday week of 1978) and 39,150 trailers or containers (down 13.2% from 1978). Piggyback traffic on Class I U.S. roads in 1979 established a record for the third consecutive year. Cumulative volume for the year is 1,857,705 (up 0.9% from 1978). Trailers and containers carried reached 3,278,163 (3.2% above 1978).

REVENUE FREIGHT CARLOADINGS

Commodity	Jan. 5 week	Dec. 29 week	Dec. 22 week
Grain	30,884	20,628	33,921
Farm products	3,555	2,648	4,283
Metallic ores	26,476	25,776	29,229
Coal	87,807	73,789	111,205
Crushed stone, gravel & sand	10,554	7,879	12,225
Nonmetallic minerals	14,449	12,821	14,894
Grain mill products	15,146	13,432	18,571
Food and kindred products	14,456	13,088	19,774
Primary forest products	17,261	10,874	20,631
Lumber & wood products (except furniture)	6,127	5,641	11,547
Pulp, paper & allied products	18,781	13,436	22,515
Chemicals & allied products	26,731	23,581	29,154
Petroleum products	5,922	4,870	6,264
Stone, clay & glass products	13,598	11,963	16,124
Coke	5,508	5,881	5,595
Metals & products	15,654	12,789	16,379
Motor vehicles & equipment	9,415	6,934	16,789
Waste & scrap materials	9,149	7,581	13,351
Forwarder & shipping assn. traffic	7,212	7,110	12,049
All other carloads	29,859	25,293	44,852
LCL traffic	141	142	215
Total cars loaded	**368,685**	**306,156**	**459,567**

	1980	1979
Estimated revenue ton-miles (billions)	**14.4**	**12.7**

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended Dec. 7, 1979, totaled 7.0 million tons (up 5.2% from 1978). Cars loaded totaled 102,908 (down 0.7% from 1978). Cumulative loadings for 1979 were up to 242.6 million tons (up 9.3% from 1978).

- *Algerian State Railways.*—Awarded a $13-million contract to Union Switch & Signal's WABCO Westinghouse Signaling Division, Torino, Italy, for the supply of interlockings, automatic block signaling equipment, and highway crossing protection equipment for 50 miles of line.

- *Amtrak.*—Specifications for a new series of single-level passenger cars are being sent to manufacturers in the U.S., Canada, Germany, Britain, Switzerland, France, Japan, and Italy. An initial order of 200 85-foot cars is planned. Amtrak has not specified the carbody material to be used or the exterior design of the cars. Bids will be sought on a full line of equipment—coaches, lounges, diners, sleepers, slumber coaches, baggage, and baggage/dormitory cars.

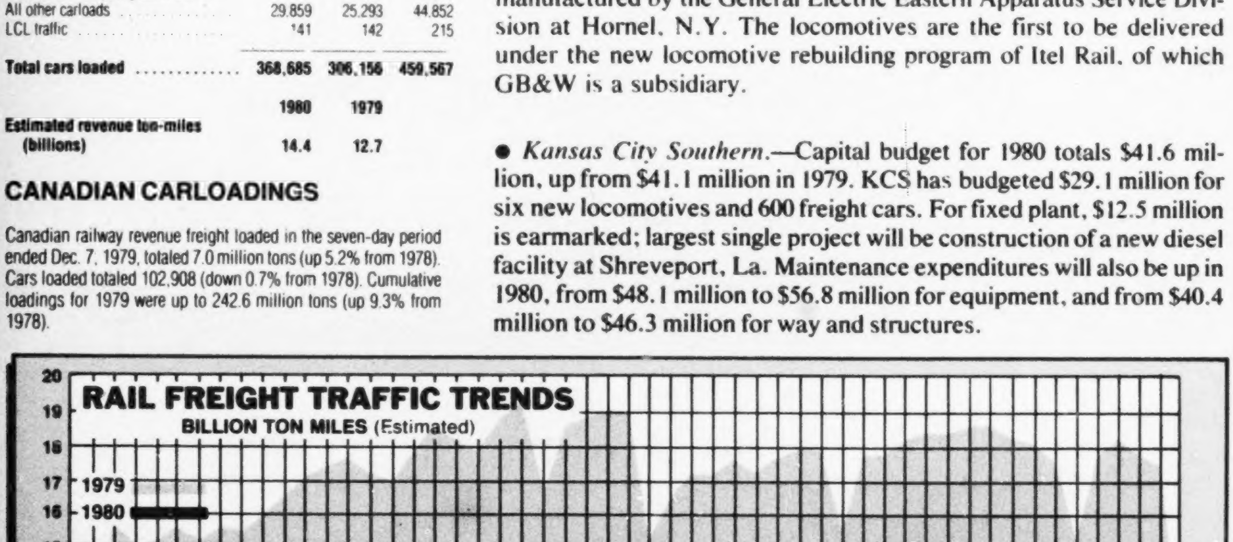
- *Delaware & Hudson.*—1980 equipment program calls for acquisition of 200 52-foot, 100-ton mill gondolas; 100 100-ton coal hoppers; and six remanufactured ALCO 420 locomotives—all for delivery in March and April and valued at a total of $21 million. D&H has also authorized acquisition of 150 65-foot gondolas for delivery later in 1980.

- *Family Lines.*—Announced the completion of a new $7.5-million locomotive servicing facility adjacent to Rice Yard at Waycross, Ga. Routine service will be performed for approximately 125 locomotives daily, including refueling, lubricating, inspecting, cleaning, testing, and replenishing on-board supplies.

- *Grand Trunk Western.*—1980 equipment program calls for acquisition of five new diesel-electric units, 15 cabooses, and 552 freight cars—246 boxcars, 243 bilevel and trilevel rack cars, 40 piggyback flatcars, and 23 standard flatcars.

- *Green Bay & Western.*—Is taking delivery of five locomotives—a 2,000-hp Alco C-420 and four 2,400-hp Alco C-424's—that were remanufactured by the General Electric Eastern Apparatus Service Division at Hornel, N.Y. The locomotives are the first to be delivered under the new locomotive rebuilding program of Itel Rail, of which GB&W is a subsidiary.

- *Kansas City Southern.*—Capital budget for 1980 totals $41.6 million, up from $41.1 million in 1979. KCS has budgeted $29.1 million for six new locomotives and 600 freight cars. For fixed plant, $12.5 million is earmarked; largest single project will be construction of a new diesel facility at Shreveport, La. Maintenance expenditures will also be up in 1980, from $48.1 million to $56.8 million for equipment, and from $40.4 million to $46.3 million for way and structures.

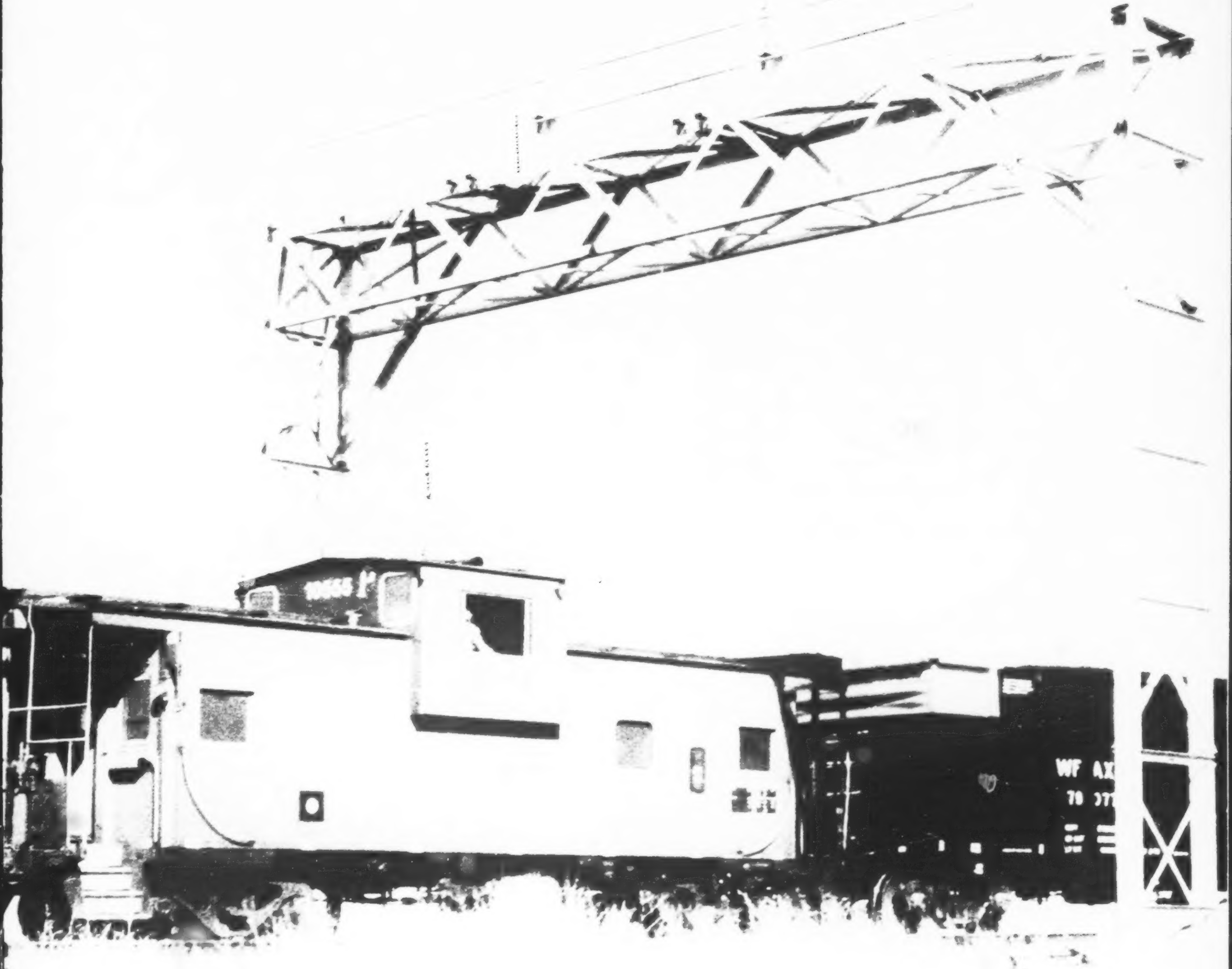


Source: Association of American Railroads

1980 railroader's guide to Washington

February 11, 1980

RAILWAY AGE



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—and beyond

Train control systems

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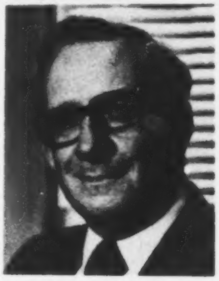
Inside



LUTHER S. MILLER

PRODUCTIVITY

There's a lot of breast-beating, particularly in shipper circles, about the railroads' failure to wrest greater productivity from their substantial investments in men and machines. It does seem that on any yardstick of productivity, railroad gains in any given year are often measured in millimeters. But over, say, a period of dozen years, the picture looks considerably brighter—and it is just such a picture that is buried deep in the hundreds of pages of documentation that the railroads recently sent to the ICC along with their request for a new rate increase (p. 4). For the benefit of our readers—particularly our several thousand shipper readers—we have dug it out, and here it is:

Freight revenue ton-miles per:	1967-1978 increase	Annual average increase
Employee	36%	3.3%
Employee-hour	34%	3.1%
Route-mile	32%	2.9%
Active locomotive	6%	.5%
Serviceable freight car	40%	3.6%
Freight car-mile	21%	1.9%
Freight train-mile	18%	1.6%
Freight train-hour	10%	0.9%

For those who measure progress not by how far we've gone, but by how far we still have to go, there is ample reason for breast-beating. For those of us who sometimes look at it the other way, the figures above are mighty encouraging.

"NOT A WORLD WITHOUT PROBLEMS. . . ."

Our cover story in this issue is on train control—the first in a series of 10 articles that will explore, during the coming year, "Railroad technology: The state of the art—and beyond." In this first installment, Senior Editor Gus Welty looks into "a whole new world of minicomputers and microprocessors. . .a world that promises greater efficiency in getting trains over the road with minimum delay, with all this implies meeting hot schedules, conserving fuel, and controlling crew costs. But is is not a world without problems." The problems as well as the promises are thoroughly aired in the article beginning on p. 14.

Next in the series will be John Armstrong's report on motive power, scheduled for publication April 14. Other articles will cover track machines, yards, cars, loss and damage prevention, intermodal equipment, communications, trucks and running gear, and detection equipment. In researching each of these, we are seeking out the ideas of both railroad people and suppliers. We will welcome our readers' suggestions.

WASHINGTON: WHO? WHERE? HOW?

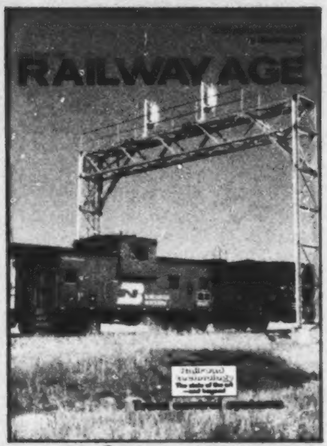
You want information on the railroad provisions of a bill that is about to come out of the Senate Finance Committee. Whom do you call? Try either William Morris or Jack Curtis; they handle rail issues for that committee and can be reached at 202/224-4515.

That is just one of many hundreds of entries that you'll find in our revised Railroader's Guide to Washington, which is cosponsored (as have been the two previous guides) by Thrall Car. It begins on p. 25.

RAILWAY AGE

February 11, 1980

FEATURES



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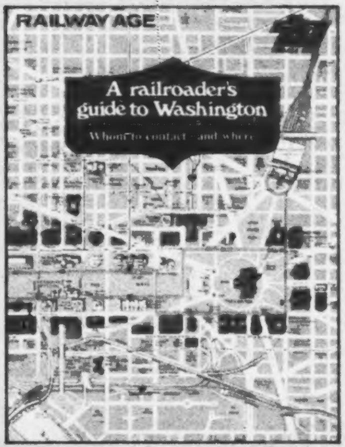
14 **Railroad technology: Train control systems**
In the first of a series of 10 articles exploring "Railroad technology: The state of the art—and beyond," Senior Editor Gus Welty examines developments using minicomputers and microprocessors that promise to step up train-handling efficiency, with concommitant savings in time, fuel, and crew costs.

20 **SCL's goal: Two locomotives for the price of one**
As the price of new locomotives escalated, Seaboard Coast Line decided to try "remanufacturing" its own. A year and a half later, SCL's Tampa shop is turning out a new "GP-15" every week.

25 **1980 Railroader's guide to Washington**
Sometimes writing your congressman just doesn't cut it, and the nation's capital can be a tough place to find your way around. If you pull out and save RA's 1980 guide, you can let your fingers do the walking.

37 **Baltimore transit: Half way there**
America's next new heavy rail rapid transit system should be ready for revenue passengers by the end of 1982, with equipment tests to begin in mid-1981. Meanwhile, a six-mile extension is being designed, with an eye to a truly regional transit system for the Baltimore area.

46 **Chicago RTA: Keeping up with the commuter influx**
Since Chicago's Regional Transportational Authority was formed in 1974, it has been working hard to catch up on deferred maintenance. With demand for its rail services rising fast, there's going to be a lot more building ahead.



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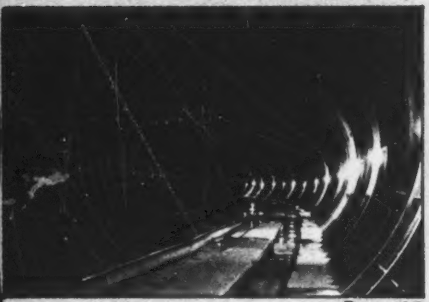

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COVER: A coal train passes under a signal bridge west of Alliance, Neb., on Burlington Northern's new line.

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Market

CARLOADINGS

Loadings of revenue freight in the week ended Jan. 26 totaled 450,285 cars, according to the Association of American Railroads. This was an increase of 45,647 cars, or 11.3%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Jan. 26 are estimated at 17.4 billion, an increase of 15.4% above the corresponding week of 1979.

REVENUE FREIGHT CARLOADINGS

Commodity	Jan. 26 week	Jan. 19 week	Jan. 12 week
Grain	32,803	30,138	29,550
Farm products	4,669	4,834	4,834
Metallic ores	23,664	22,243	26,805
Coal	103,796	102,344	103,418
Crushed stone, gravel & sand	12,903	13,445	13,038
Nonmetallic minerals	14,151	14,447	14,284
Grain mill products	19,325	19,178	19,238
Food and kindred products	19,721	19,197	18,632
Primary forest products	21,052	20,798	20,502
Lumber & wood products (except furniture)	11,304	10,687	9,618
Pulp, paper & allied products	22,138	22,232	20,709
Chemicals & allied products	28,941	29,279	29,374
Petroleum products	6,809	7,182	6,587
Stone, clay & glass products	16,210	16,095	15,845
Coke	6,793	6,444	6,041
Metals & products	18,336	18,514	16,796
Motor vehicles & equipment	18,230	17,295	16,851
Waste & scrap materials	13,888	14,378	13,783
Forwarder & shipping assn. traffic	11,538	11,376	10,343
All other carloads	43,746	44,269	41,753
LCL traffic	268	235	250
Total cars loaded	**450,285**	**444,610**	**438,251**
Cumulative total,	**1980**		**1979**
4 weeks	**1,700,844**		**1,563,841**
Estimated revenue ton-miles (billions) 4 weeks	**65.7**		**58.7**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Jan. 19 totaled 34,309 cars (19.9% above the corresponding 1979 week) and 62,438 trailers or containers (up 24.2% from 1979). Cumulative volume for the first 3 weeks of 1980 is 89,859 cars (up 6.4% from 1979) and 162,578 trailers or containers (up 11.3% from 1979).'

CANADIAN CARLOADINGS

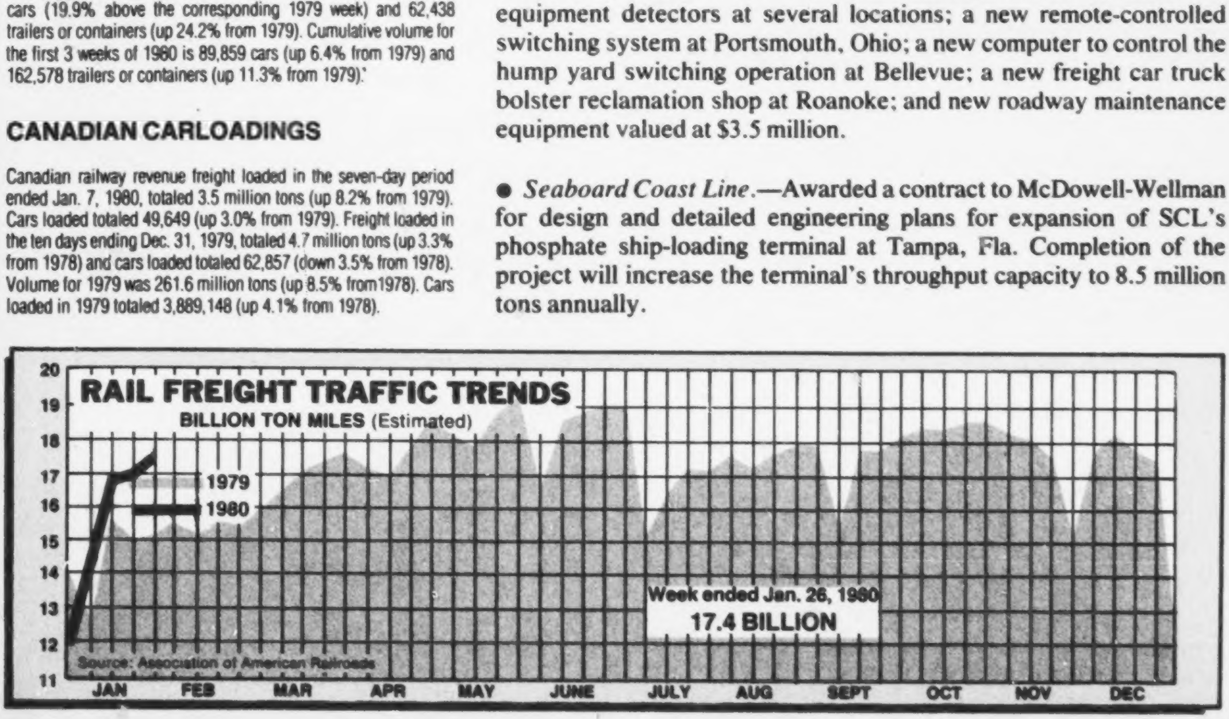
Canadian railway revenue freight loaded in the seven-day period ended Jan. 7, 1980, totaled 3.5 million tons (up 8.2% from 1979). Cars loaded totaled 49,649 (up 3.0% from 1979). Freight loaded in the ten days ending Dec. 31, 1979, totaled 4.7 million tons (up 3.3% from 1978) and cars loaded totaled 62,857 (down 3.5% from 1978). Volume for 1979 was 261.6 million tons (up 8.5% from1978). Cars loaded in 1979 totaled 3,889,148 (up 4.1% from 1978).

- *Amtrak.*—Directors approved construction of a $6-million commissary and warehouse at the Chicago 12th Street yards. The existing commissary is located at 21st Street; warehousing is now carried out at both the 12th and 21st Street yards. The new facility is part of a $40.6-million modernization program of Amtrak's 12th and 16th Street yards. In phase one of the program, a locomotive-servicing facility and five car-servicing tracks were constructed. The second phase saw the construction of two additional car-servicing tracks, a three-track enginehouse and a three-track car shop. The commissary/warehouse project is part of the third phase, which will also see installation of wheel-truing facilities, an equipment washer, and an m/w facility. In the fourth and fifth phases, more car-servicing tracks will be added along with train inspection pits and a car storage yard.

- *New York Metropolitan Transportation Authority.*—Authorized expenditure of $2.25 million for acquisition and rehabilitation of a 14.3-acre Conrail yard in Brooklyn adjacent to the New York City Transit Authority's Linden shop, where track panels are prefabricated. MTA Chairman Richard Ravitch says this will permit materials used in production of the track panels to be shipped to Linden by rail instead of by truck, thus saving over $1 million a year in trucking and handling costs.

- *Norfolk & Western.*—1980 capital program, totaling a record $162.9 million, includes $102.4 million for the following new equipment: 25 six-axle, 3,000-hp diesel-electric units; 228 fully enclosed trilevel auto racks and 23 enclosed bilevel racks; 500 100-ton covered hoppers, to be built at Roanoke shops (in addition to 500 grain covered hoppers already under construction); 500 100-ton gondolas, to be built at Roanoke shops; 300 2,980-cubic-foot-capacity, 100-ton covered hoppers for hauling cement and other dense materials (NW's board also authorized acquisition of 500 similar cars for 1981 delivery); and 250 45-foot piggyback trailers. NW's 1980 roadway capital program, budgeted at $60.5 million, calls for installation of 150 track miles of new cwr and 161 miles of "fit" welded rail; installation of new defective-equipment detectors at several locations; a new remote-controlled switching system at Portsmouth, Ohio; a new computer to control the hump yard switching operation at Bellevue; a new freight car truck bolster reclamation shop at Roanoke; and new roadway maintenance equipment valued at $3.5 million.

- *Seaboard Coast Line.*—Awarded a contract to McDowell-Wellman for design and detailed engineering plans for expansion of SCL's phosphate ship-loading terminal at Tampa, Fla. Completion of the project will increase the terminal's throughput capacity to 8.5 million tons annually.



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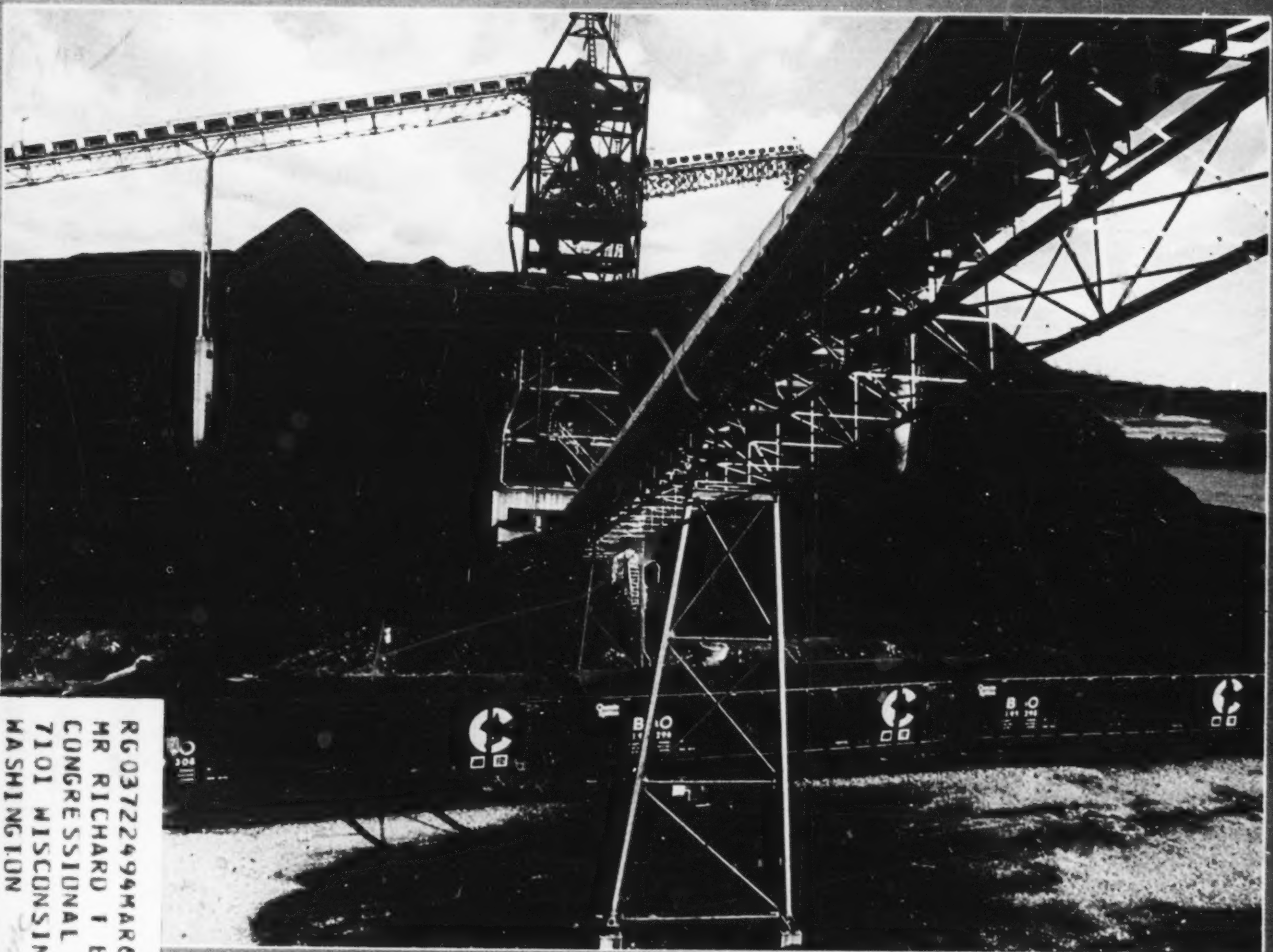
**Railroad communications:
The optical fiber alternative**

February 25, 1980

RAILWAY AGE



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Coal traffic:
How much growth for the railroads?

RAILWAY AGE

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February 25, 1980 • Vol. 181, No. 4

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Inside

LUTHER S. MILLER

PROBLEMS AT PAMPA

On Nov. 13, 1979, the Celanese Chemical Co. flew a group of reporters and trade magazine editors to Pampa, Tex., for what should have been (from Celanese's point of view, anyway) a happy and historic occasion. Celanese was announcing that it had completed the $70-million conversion of its Pampa boilers from a scarce fuel (natural gas) to a more abundant one (coal). In the annals of fuel conservation, the occasion was certainly historic: "This conversion to coal as a boiler fuel, the nation's first in any industrial plant since the Arab oil embargo, will free 10 billion cubic feet of natural gas a year for higher priority uses," said Celanese. "We have freed enough natural gas to heat 30,000 homes each year—or enough raw material to produce 100 million gallons of methyl alcohol a year."

But for Celanese officials, the occasion was not entirely a happy one. Each year the plant at Pampa will burn 600,000 tons of coal, delivered by a 73-car unit train making the 703-mile trip from Colorado every four days. Celanese supplies the cars—the first rapid discharge bottom dump cars built by Richmond Tank Car of Houston. FreightMaster maintains them at Pueblo, Colo. Rio Grande and Santa Fe supply the transportation—and there's the rub. The rates the railroads are charging are considerably higher than Celanese had figured they would be six years ago when planning for the conversion began—so much higher that Celanese has decided to shelf plans for converting three more of its plants, on the Texas Gulf Coast, from gas to coal.

"Once the coal source was identified and mining contracts were signed, we were over a barrel," said Celanese President Harry B. Bartley, Jr. "Railroad cooperation vanished."

Similar stories are coming from elsewhere in the South and the Southwest.

According to testimony submitted to the Joint Economic Committee of Congress, the Central Power & Light Co. of Corpus Christi, Tex., found that "from an early 'ball-park' estimate by the railroads of from $10.00 to $10.25 per ton. . .the quoted rate rose to almost $19 per ton after the coal supply contract had been executed." As a result this company began to import coal from South Africa.

The same committee was told that the Tampa (Fla.) Electric Co. had found that it could get coal more cheaply from Poland than from U.S. sources.

"THERE IS NO MORE CHEAP ENERGY"

One can be sympathetic to the plight of the coal users, especially Celanese, a company that took the coal-conversion plunge at a time when it was under no legal compulsion to do so. But are the railroads alone—or even principally—to blame for the rising cost of delivered coal? Senior Editor Gus Welty examines the question in the first of three coal stories (p. 24) that comprise the main part of this issue's feature section. "Energy users," he writes, "be they utilities or other industries or individual consumers, have simply not realized that there is no more cheap energy—and that they cannot convert from expensive oil or expensive gas and find that coal will be as inexpensive as it used to be."

Should rail rates be held down to promote social policy? AAR President William Dempsey emphatically thinks not: "The railroads should not be called upon to subsidize the utilities or the coal industry."

There is certainly no evidence that the utilities are holding down their own rates to subsidize anybody. Public utilities last year had an average rate of return on net worth of more than 11%. The railroads averaged less than 2%.

RAILWAY AGE

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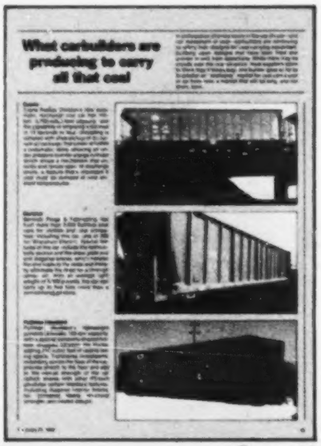

What carbuilders are producing to carry all that coal

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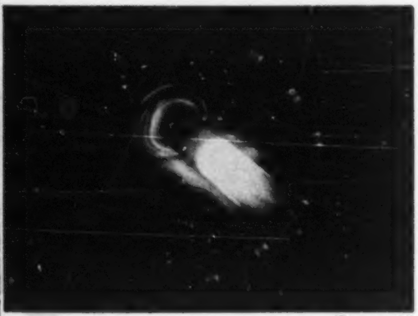

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A group of professional railroaders has formed a company that assists local governments and shippers in setting up "designated operator" short lines.

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COVER: A Chessie train of new Pullman Standard hoppers moves into Carolina Power & Light Co. plant at Roxboro, N.C., for unloading

Market

CARLOADINGS

Loadings of revenue freight in the week ended Feb. 2 totaled 434,978 cars, according to the Association of American Railroads. This was an increase of 23,268 cars, or 5.7%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Feb. 2 are estimated at 16.7 billion, an increase of 3.8% above the corresponding week of 1979.

REVENUE FREIGHT CARLOADINGS

Commodity		Feb. 2 week
Grain		29,326
Farm products		4,561
Metallic ores		22,231
Coal		97,260
Crushed stone, gravel & sand		12,037
Nonmetalic minerals		13,470
Grain mill products		18,843
Food and kindred products		19,017
Primary forest products		19,704
Lumber & wood products (except furniture)		11,056
Pulp, paper & allied products		22,427
Chemicals & allied products		29,016
Petroleum products		6,459
Stone, clay & glass products		14,962
Coke		6,636
Metals & products		19,114
Motor vehicles & equipment		18,894
Waste & scrap materials		13,244
Forwarder & shiping assn. traffic		12,250
All other carloads		44,222
LCI traffic		249
Total cars loaded		**434,978**
Cumulative total	**1980**	**1979**
5 weeks	**2,134,894**	**1,975,551**
Estimated revenue ton-miles (billions) 5 weeks	**16.7**	**15.5**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Jan. 26 totaled 34,498 cars (3.9% above the corresponding 1979 week) and 62,367 trailers or containers (up 7.0% from 1979). Cumulative volume for the first 4 weeks of 1980 is 124,357 (up 5.7% from 1979) and 224,945 trailers or containers (up 10.1% from 1979).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended Jan. 21 totaled 4.4 million tons (up 3.5% from 1979). Cars loaded totaled 67,728 (up 1.2% from 1979). Cumulative loadings for 1980 were up to 12.18 million tons (up 1.3% from 1979).

- *Chessie.*—Will acquire 160 cabooses costing $11 million from Fruit Growers Express.

- *Conrail.*—Ordered 300 60-foot, 9-inch, 100-ton standard roof auto parts boxcars from Fruit Growers Express at a cost of $16.5 million. Conrail earlier ordered 355 60-foot, 9-inch, 100-ton cars from FGE, of which 125 will be high roof units and 230 standard roof. As a result of the 125-car order, FGE secured three tack-on orders from other Class I roads, bringing the total value of the latter contract to $27 million.

- *New York City Transit Authority.*—Awarded a $15,681,947 contract to NAB-Safety Associates for retrofitting an additional 344 IRT cars with air-conditioning systems. Two earlier contracts also went to NAB-Safety. The three contracts have a total value of nearly $51 million and involved retrofits for 1,370 IRT cars.

- *Washington Metropolitan Area Transit Authority.*—Awarded a $9.1-million contract to Westinghouse Electric for the supply of 12 substations and associated electrical equipment consisting of rectifiers, switch gear, and distribution apparatus.

- *Freight cars and locomotives.*—The following report has been received from the AAR and ARCI:

DELIVERED

	December		November	Twelve months	
	1979	**1978**	**1979**	**1979**	**1978**
Built new by carbuilders	7,376	6,524	7,971	83,931	62,400
Built new in RR shops	708	303	913	6,090	5,040
Built new - total	8,084	6,827	8,884	90,021	67,440
Rebuilt	16	13	54	* 882	1,334
TOTAL DELIVERED	**8,100**	**6,840**	**8,938**	***90,903**	**68,774**
Locomotives	160	116	168	1,892	1,312

ORDERED

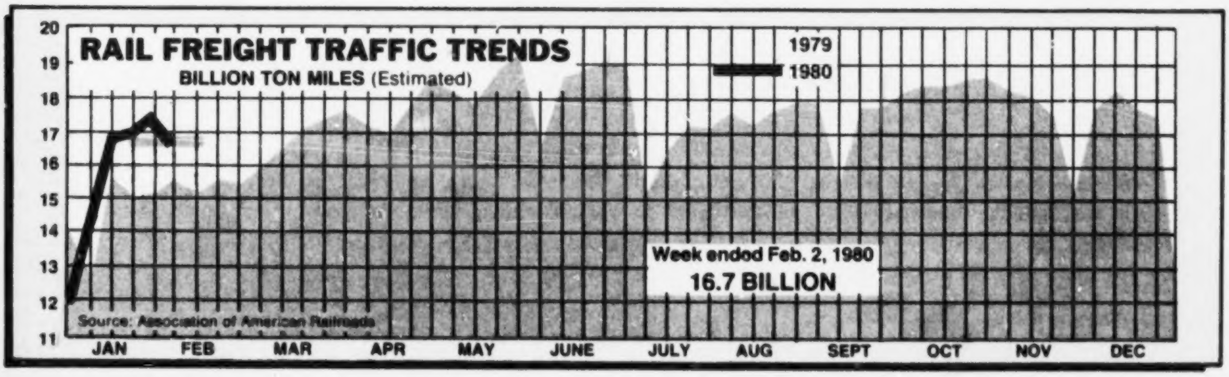
	December		November	Twelve months	
	1979	**1978**	**1979**	**1979**	**1978**
To be built new by carbuilders	7,538	11,827	7,890	113,060	124,862
To be built new in RR shops	1,000	900	768	6,231	4,334
To be built new - total	8,538	12,727	8,658	119,291	129,196
To be rebuilt	16	7	54	965	145
TOTAL ORDERED	**8,554**	**12,734**	**8,712**	**120,256**	**129,341**

ON ORDER AND UNDELIVERED

	January 1		December 1		Average
	1980	**1979**	**1979**	**1979**	**1978**
To be built new by carbuilders	112,749	89,944	113,797	113,667	63,141
To be built new in RR shops	6,452	6,311	6,160	6,350	5,505
To be built new - total	119,201	96,255	119,957	120,017	68,646
To be rebuilt	170	87	170	126	436
TOTAL ON ORDER	****119,371**	**96,342**	**120,127**	**120,143**	**69,082**
Locomotives	1,460	1,164	656	1,010	788

* Revised figures

** Backlog reduced by 1,210 cars due to reporting revisions and cancellation of some orders.



Quebec's billion-dollar answer to the Montreal problem

March 10, 1980

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NW: Good track pays off at the bottom line

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Inside

LUTHER S. MILLER

WHERE EFFICIENCY BEGINS

"The gospel according to Jack Fishwick," *Railway Age* observed a couple of years ago in an article on Norfolk & Western and its president, "can be summed up in two words: efficiency, productivity." The further point may now be made that on NW, efficiency begins with well-maintained track, and the people who maintain that track are as conscious of productivity measurement as are, for example, the people over in car utilization. It is a point of pride with Chief Engineer L. A. "Buck" Durham, Jr., for example, that a system rail gang today, while operating with 16% less manpower than in 1972, can nonetheless put 30% more rail in place for each on-track hour. NW's maintenance philosophy is described in the story beginning on p. 18.

BUT CAN YOU PROVE IT?

"You *say* rail transit is the most energy efficient way to move people—but can you prove it?" That question is often put to us. Now, the American Public Transit Association has made it an easy question to answer. APTA's just-published 1978-1979 edition of the Transit Fact Book contains the following table:

Propulsion energy required to move 200 commuters 10 miles in line-haul service

Type of vehicle	Passengers per vehicle	Number of of vehicles	Btu* per passenger mile	Total Btu*
Heavy rail car	200	1	103	205,060
Heavy rail car	100	2	205	410,120
Transit bus	67	3	517	1,040,250
Transit bus	40	5	867	1,733,750
Vanpool	10	20	1,389	2,777,800
Vanpool	6	33	2,314	4,583,370
Carpool	4	50	2,224	4,484,000
Average automobile	1.3	154	6,898	13,810,720

*British thermal units

With the table, there is this comment: "During peak periods when crush loads are experienced, transit buses are up to 15 times more energy efficient than automobiles, achieving 280 passenger miles per gallon of fuel compared to the 19 passenger miles per gallon achieved by the average commuter automobile. A modern heavy rail car capable of carrying over 250 passengers at a maximum load is the most fuel efficient form of urban transportation. Under these fully loaded conditions a heavy rail car is 53 times more fuel efficient than an average commuter automobile."

The reply to this, of course, is that the most energy efficient system in the world is grossly inefficient unless people use it—people who would otherwise be driving their cars to work. APTA has something to say about this, too: "A licensed driver in Chicago, a city with extensive rail and bus service, purchases 6.8 gallons of gasoline per week. In Washington, D.C., where rail service has only been in operation since 1976, the average purchase is 8.2 gallons a week; and in Los Angeles and Houston, cities where transit has been small but is now growing rapidly, the average gasoline purchase per driver is 14.0 and 16.2 gallons per week, respectively." APTA's conclusion: "As transit systems increase in capacity and begin to affect the way cities grow, there will be fewer cities where there is a high demand for gasoline."

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NW: Good track pays off at the bottom line

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"Buck" Durham's engineering team has posted notable gains in both the productivity of NW's maintenance-of-way forces and their efficiency in getting on track, getting the job done, and getting off again.

25 Industrial car movers: New power in an old package
Outside, they resemble switching locomotives, but inside, the power and controls are tailored to industrial rather than traditional railroad needs.

28 Moving people: A billion-dollar solution for Montreal
The Province of Quebec's plan calls for, among other things, a whole new level of intermediate service over 38.5 miles of existing rights-of-way.

42 South Shore: New life for the last of the interurbans
Often down—and for a time, last year, out—the CSS&SB is now getting significant operating aid and will soon have a new fleet of cars.

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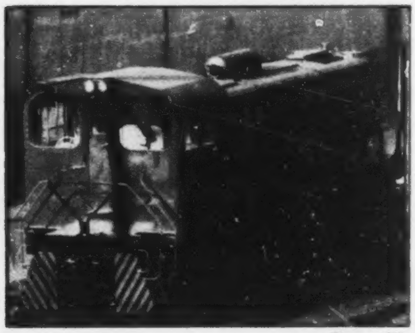

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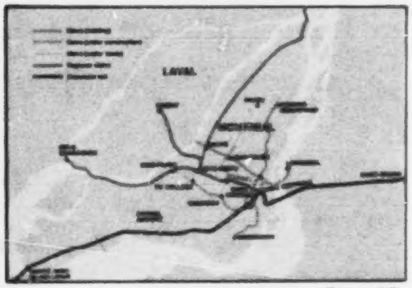

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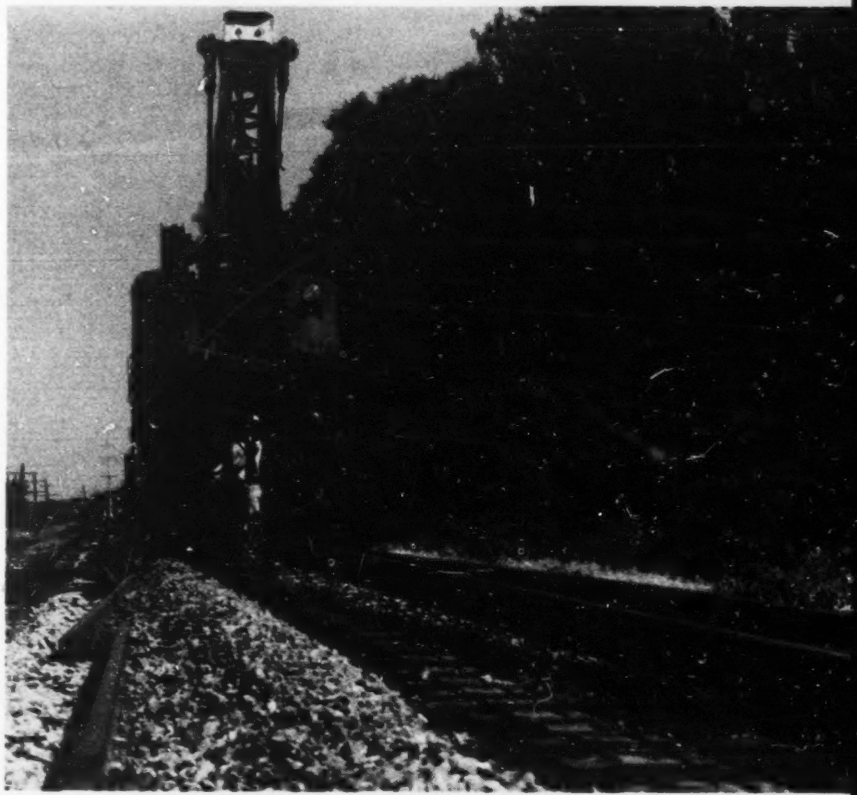
COVER: Putting down continuous welded rail on the Norfolk & Western.

NW finds good track pays off at the



A few weeks ago, at a meeting of financial analysts in New York, Norfolk & Western announced a 1979 net income of nearly $200 million. The only thing unusual about that announcement was the record-breaking magnitude of NW's annual earnings, for bringing a healthy figure down to the bottom line has been a consistent virtue of the Virginia-based coal road for some years.

It may be difficult to tie maintenance-of-way expenditures to profit as directly, say, as investment in specialized rolling stock or motive power. But looking at the NW record, it becomes difficult to escape the conclusion that a long-term emphasis on a high standard of track, and a consistent willingness to put a sizable investment into the machines and materials needed to provide it, have had a pretty direct bearing on NW's consistently favorable operating results. The railroad doesn't have any doubts about that at all.

"Our continuing emphasis on improving our physical plant and increasing our efficiency of operations was directly reflected in our results for the year," said NW Executive Vice President Robert B. Claytor at that analysts' meeting.

NW has traditionally operated under what might be termed a "no deferred maintenance" approach. Put another way, this means simply that the railroad regularly puts sufficient resources into its m/w program to assure that the condition of its track structure will neither adversely affect its operations nor diminish its competitive ability. "The essential objective of our maintenance-of-way program," explains NW Chief Engineer L. A. "Buck" Durham, Jr., "is to keep the railroad adequately maintained to handle the level of traffic we're carrying."

"It's much harder to catch up," adds NW's assistant chief engineer-maintenance, D. E. Turney, Jr. "The key to a successful program is to avoid getting behind. We've been able to do that."

● **Evidence of success.** How do you gauge an engineering department's success in achieving this sort of maintenance level? One way might be to look at the number of operating restrictions imposed by track condition, and here NW looks remarkably good.

"We currently have fewer slow orders on our railroad than we have ever had," NW's Don Turney told *Railway Age* in mid-February. "The main line had only 24.5 miles under slow order last week," he noted, "and most of these were relatively minor restrictions."

Another way to gauge maintenance-of-way effectiveness is to look at a railroad's safety record, and on this score, too, NW comes out looking exceptionally good. Over the five-year period from 1973 to 1977, for example, NW consistently posted one of the more favorable records of any Class I or II railroad for track-related accidents. In 1977, NW's average of track-related accidents per million train miles was less than half the national average. This record was achieved, moreover, under some of the most severe conditions of traffic and terrain to be found anywhere in the industry.

Together with these achievements in building the kind of track structure that can move shipments over the railroad safely and on time, Durham's engineering team has posted some notable gains in both the productivity of NW's maintenance-of-way forces, and their efficiency in getting on track, getting the job done, and getting off again. A Norfolk & Western system rail gang, for example, operates with 16% less manpower than it had as recently as 1972, yet it can put upwards of 30% more rail in place for each on-track hour. Similarly, today's system tie gang can put close to half again as many ties in place for each on-track hour as its 1972 counterpart. While not as dramatic as these, productivity gains in every area of NW's m/w activity have meant both direct savings in the cost of track maintenance and the less-easily identified savings in operating costs that go with reduced down time for maintenance activity.

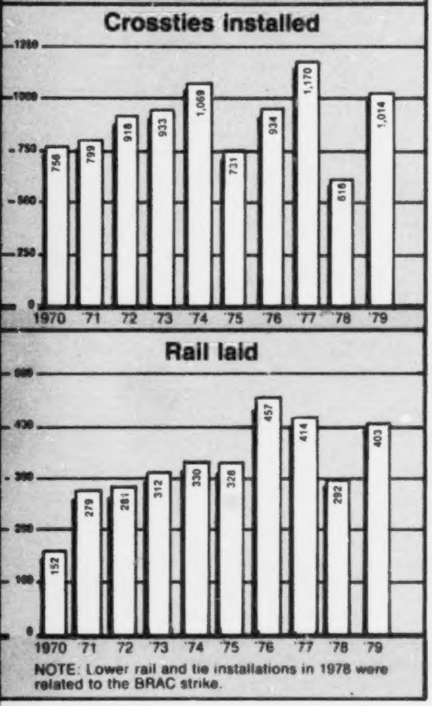
Clearly contributing to the ability of NW's engineering forces to develop high levels of productivity and efficiency has been the year-in, year-out consistency of the railroad's maintenance-of-way budget. Over the past five years, NW's track and structures maintenance spending has hung right around a way and structures expense ratio of just over 15%, and the regularity of that budget has enabled the railroad to sustain a relatively uniform level of maintenance-of-way activity, with all of the gains in efficiency that go with that.

● **Hard wear, high standards.** Norfolk & Western does not provide an easy track maintenance environment; in fact, it may be one of the toughest proving grounds in the entire industry for m/w materials and practices.

Almost 60% of total NW tonnage is coal traffic, almost all of which now moves behind six-axle locomotives in solid trains of 100-ton hopper cars. On the railroad's principal coal routes that traffic often reaches an extraordinary density; on some of NW's West Virginia main lines, annual traffic reaches a level of nearly 70 million gross tons per mile.

bottom line

NW: 10 years of "no deferred maintenance"



NOTE: Lower rail and tie installations in 1978 were related to the BRAC strike.

NW crosses three mountain ranges, and terrain imposes some of the railroad's most difficult maintenance problems. Some of the worst are located on those same western Virginia and West Virginia main lines that carry the railroad's heaviest tonnage. About 50% of the Pocahontas Division main line between Bluefield, Va., and Williamson, W. Va., for example, is laid on curves, several of them as sharp as 13°. Annual tonnage on portions of this line reaches as much as 67 MGT.

To successfully accommodate its heavy tonnages under these severe conditions, NW has adopted some of the highest standards for track material and construction in the industry. NW main-line track standards call for 132-pound rail carried on ties spaced at 19½ inches on centers, or 24 ties per 39-foot rail section. Continuous welded rail is standard for track up to and including 10° curves, with 78-foot butt-welded rail used on curves greater than 10°.

The railroad's standard main-line ballast section provides for an 8-inch layer of compacted subballast and a top ballast section of 15 inches of crushed stone ballast beneath the ties. A standard 6-inch ballast shoulder is extended to 12 inches on the outside of curves in welded rail territory.

The use of 132-pound rail has been standard on NW for more than 30 years, and the railroad has been laying cwr since the mid-1950s. More than 60% of the system's main-line track miles are now laid with a rail section of at least 130 pounds, and NW's welded rail in main-line track now totals some 3,600 miles.

Much of the lighter rail still in use was inherited in NW's 1964 merger with the Nickel Plate and Wabash railroads, which were typically laid with 110-, 112-, and 115-pound rail. Because of this, says Durham, "we have a good market for our reclaimed 132-pound rail."

● **Problems with rail.** Despite his system's overall high rail standard, however, Durham considers rail to be his biggest single m/w problem.

"I'm not satisfied with rail quality," says Durham. "It's not holding up under traffic." The principal problems, he believes, are developed by heavy and repetitive loads and the train-track dynamics that are characteristic of the unit trains of 100-ton hoppers that now move the bulk of NW coal traffic.

"Several years ago," says Durham, "wear governed rail replacement, but with heavier wheel loads fatigue and internal defects are now the criteria. We are also now getting plastic flow in the rail head before it work-hardens."

Assistant Chief Engineer Turney cites the example of a section of track on NW's Altavista District east of Roanoke that is subject to extremely heavy coal traffic. "Some of this section was laid with 132-pound rail in 1961 that is still good," he says, "while rail we laid in the same section during 1970-72 is up to three defects per mile per year, and we are now going to have to change some of it out.

"We feel that the 1961 rail was work-hardened with 55- and 70-ton cars, while the newer rail has not had this advantage, even though tonnage over this section has remained about the same," Turney says. "The newer rail is suffering from detail fractures due to head-checking and shelling." For curves in excess of 6° NW has adopted head-hardened rail as a standard to combat rail wear problems. Use of this rail, says Durham, has doubled the period between rail change-outs compared to experience with standard carbon rail under similar conditions of heavy tonnage and curvature.

"We also use rail oilers extensively to prolong rail life on curves," says Durham. "The proper use of flange lubricators is the single most important factor in reducing rail wear on the high side of curves," he adds, "and we are adamant that our field forces keep these lubricators in good working order." With proper use of lubricators, says Durham, some 5° curves laid with standard carbon rail have now carried as much as 300 MGT, and are expected to handle at least another 100 MGT before replacement is required.

An increase in rail corrugation, particularly in curves, is another problem that Durham attributes to heavier modern wheel loads. "We do a lot of rail grinding," comments Turney, "principally to eliminate this corrugation in curves."

"Joints in welded rail are a real problem," says Durham, and NW is curing the problem by eliminating joints as rapidly as it can. When the railroad started its cwr program in the 1950s, the rail was laid in 660-foot plant-welded strings, with jointed field connections. Strings of 1,440-foot are now laid with all joints field welded, and NW is going back and field welding joints in cwr territory that were originally bolted. "We are currently installing over 10,000 field welds each year in track to eliminate joints," says Turney, "and we now have over 50,000 field welds in service."

The use of standardized procedures for field welding, together with ultrasonic weld testing, has contributed to an extremely low field weld failure rate. For insulated joints in welded rail territory, NW has standardized on bonded epoxy joints. Recently, the railroad has begun to use all-welded turnouts, and has been using explosive hardened frogs for three years now. "Preliminary indications are that they are going to be very beneficial," says Durham. "It looks like they're going to hold up very well."

● **Lasting ties.** NW has standardized on creosoted ties of white oak, or other hardwoods, with what Durham calls excellent results. Average tie life varies anywhere from as little as 23 years under the heavy tonnage and severe service conditions of NW's Pocahontas Division to as much as 50 years in yard service, with an overall system average tie life of over 35 years.

Though still committed to wood ties, NW is currently evaluating the use of concrete ties under its severe traffic conditions. "We have a test installation of concrete ties with Pandrol fastenings in a section of track west of Roanoke that's subject to heavy coal traffic," says Durham, "and for comparison purposes we put in a section of our standard wood-tie track next to the concrete tie section. "The installation has been in for more than five years, and so far it looks all right. We've had only a few problems; two ties have broken, and there's been some insulator breakage."

But Durham isn't ready to go to concrete ties. "I'm not yet convinced of the need," he says. "We can put a timber tie, complete with hardware, in place for $29, while we estimate that concrete ties would cost us $60 each in place, and we don't know what kind of service life we'll get under our traffic conditions. We can't afford concrete ties at the present price. As long as we can get them we'll probably stay with wood."

Durham attributes much of NW's success with wood ties to the oversized tie plates the railroad adopted in the 1940s, which have proven effective in both reducing mechanical wear of ties and in preventing gauge-widening in curves. "I believe that without the large tie plates we'd lose about 25% of our present tie life," comments Turney.

NW's standard for main-line track is a 7¾-inch by 14¾-inch tie plate, while an even larger 8-inch by 18-inch plate with a 1:40 cant is used for curves of more than 2° in track carrying more than 15 MGT annually, and on curves over 4° in territory carrying at least 8 MGT each year. To help counter the severe lateral forces of modern six-axle truck locomotives and high-tonnage cars in curves, NW has recently reduced unbalanced superelevation from 3 inches to 2 inches, and has increased its spiking pattern to provide up to five spikes per tie plate in curves of more than 6°.

The extra large plates are also placed in track for a distance of one-and-a-half rail lengths ahead of main-line crossovers in heavy traffic territory, at the end of double track, on new bridge ties, and in road crossings where tie plate cutting is a problem.

● **Granite ballasts better.** Under its heavy tonnage conditions, NW has found that granite ballast affords both improved track drainage and reduced cementing, and provides a longer track surface life.

"We've standardized on granite wherever it's available," says Durham, "but this is only on our eastern lines. In the Midwest we use a dolmitic limestone. We get the best material available, and then conduct periodic lab tests to make sure of it."

"For our subballast," adds Turney, "we use a crusher run material and compact it to seal off moisture from the clay or softer materials below."

Still another problem that NW associates with heavy unit train movements is ballast fouling. This has proved particularly troublesome on the low side of curves in heavy tonnage territory. After trying several approaches, Durham is convinced that regular ballast shoulder cleaning is the most cost effective answer to the problem. The railroad shoulder cleans about 500 miles or more of heavy tonnage track every year. Typically, two passes are made with the shoulder cleaning equipment.

Like a number of other railroads, NW has tried pressure cement grouting to stabilize troublesome areas such as road crossings or fills. "It was all right as long as it lasted," says Durham, "but it proved terribly expensive to rebuild a crossing that had been grouted."

More recently NW has tried the lime slurry method of roadbed stabilization. Another recent additon to NW's roadbed stabilization techniques is the use of a polyester engineering fabric to seal the subgrade and spread loads in troublesome areas. The railroad first tried engineering fabric on a limited basis in 1978, and began using it more extensively in 1979.

"We tried it last year for a section of about 4½ miles of track near Cleveland," says Turney. "The track had previously been lowered to improve clearances by undercutting, with no subballast, and we had a very unstable subgrade of clay, mud, and the like. We just weren't able to maintain surface. We undercut it again and removed the fouled material, placed the engineering fabric, and raised the track, with the fabric about 10 inches under the ties. We think the track is now going to hold up quite well."

NW is now also using the fabric as a standard for new and undercut switches and road crossings, as well as for subgrade trouble spots and elsewhere.

For new track construction NW has two basic approaches. Most often the railroad employes prefabricated 39-foot track panels. These are lifted into place by a locomotive crane. The joints are then staggered or replaced by welded rail strings. "For long sections of new track," says Durham, "we find the use of preplated cross ties spaced on the grade, followed by placement of cwr, to be a more efficient practice."

● **Key to NW's m/w productivity.** NW's highly mechanized production gangs are at the heart of the railroad's ability to get m/w work done rapidly, and at low cost. NW began to mechanize its track work in the early 1950s, but some of the greatest productivity gains have been made within the past decade.

The railroad has tried both on- and off-track m/w equipment, but has found that on-track machinery is much more productive in its large system gangs. "Off-track equipment is all right for maintenance ties, and other scattered work," says Durham, "but we find on-track equipment much better for our major maintenance work."

A combination of new and improved track machinery, better work methods, and tight control of labor requirements has given NW some impressive m/w productivity gains over recent years. For example, based on a constant 1979 dollar comparison, labor unit costs to install crossties improved 29% over 1972 costs. NW's production rail gangs have done even better, with a 40% improvement by this same comparison.

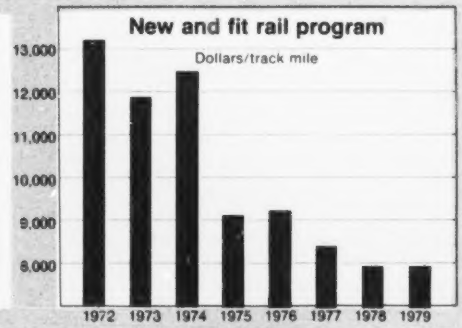
As an illustration of the significant gains that NW and the railroad industry have been able to make in track work, Durham cites the example of switch raising work with modern tampers. "Using modern tampers," he says, "we can surface and line a main-line track turnout—even a No. 20—in one hour and 20 minutes with just two people in addition to the operator and foreman. This used to take 12 to 15 people at least six hours."

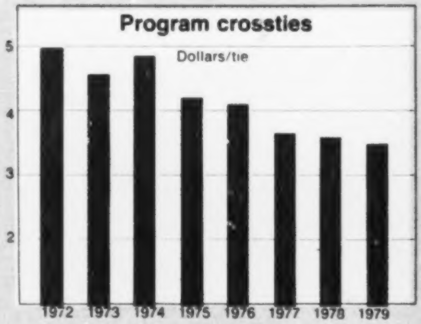
Modern track machinery, of course, gets the largest share of the credit for NW's productivity gains, but Turney also mentions such improved work methods as the use of a simple piece of equipment like a rubber-tired Pettibone crane with a magnet to pick up loose track material behind a rail gang, or the use of good time

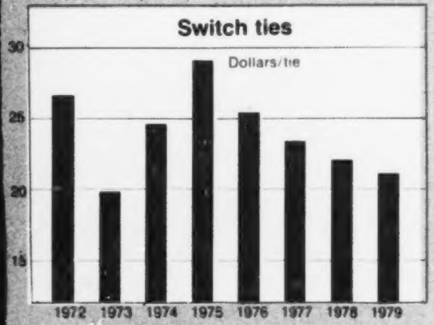
NW Chief Engineer Durham (left) with Assistant Chief Engineer-Maintenance D. E. Turney, Jr. Says Turney: "The key to a successful program is to avoid getting behind."

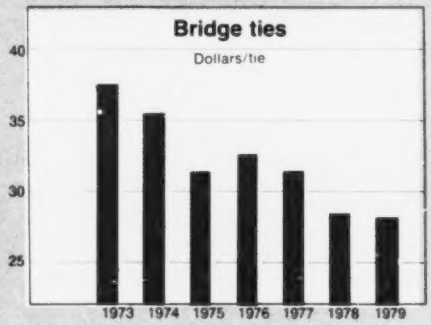
NW: M/w unit labor costs 1972-79

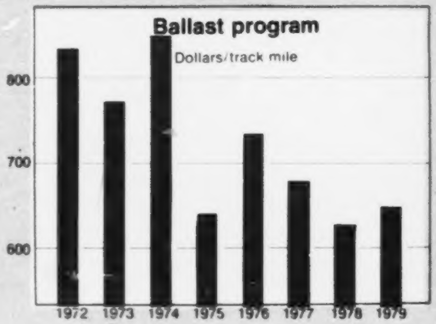
Fully allocated costs include everything from material distribution through the gang's cook and his helper to clean-up behind the gang. Costs are adjusted to 1979 dollars.


New and fit rail program


Program crossties


Switch ties


Bridge ties


Ballast program

standards to trim any possible labor surplus out of a production gang.

Much of the credit for productivity improvement goes, too, to constant management attention. "NW is productivity conscious," says Turney. "Our units of production and our unit costs are looked at continuously by NW supervisors and top management."

For several years now the railroad has been using detailed productivity measures, which are tracked on a continuing basis by NW's management information system. "We're goal-oriented," says Turney. "We put them in writing every year, and these are meaningful goals that will affect the bottom line. We try to set reasonable goals for our gangs. We furnish them with weekly performance reports on every gang, and we find they're anxious to see how they perform against the others."

More formalized training, too, is becoming an important part of NW's efforts to improve m/w effectiveness and productivity. Just last year the railroad established a school to develop track foremen at its Roadway Material Yard in Roanoke. Apprentice foremen are brought in 12 at a time for a year-long program that combines a week of classroom training every 12 weeks with structured on-the-job field training in every aspect of m/w operations. "We think it's paying off handsomely," says Durham.

Extensive computer utilization is still another part of NW's drive for m/w efficiency. In addition to such traditional computer chores as m/w material inventory management, budgeting, and cost control, NW's engineering department uses the railroad's computers for such diverse tasks as managing cross-tie distribution for their annual track program, data analysis from its track geometry car, bridge rating, and analysis of rail defect history to aid development of the railroad's annual rail program.

● **The 1980 program.** The railroad is now gearing up for a 1980 m/w program that may be called fairly typical of the railroad's maintenance level of recent years. Total engineering department m/w expense is budgeted at some $186.4 million, with another $60.5 million in road projects included in NW's record 1980 capital improvement budget.

That program will include 150 track-miles of new cwr and another 161 miles of "fit" welded rail work, 800,000 ties, and over 2,000 miles of ballast work. Programmed ballast cleaning this year will total 760 miles, and rail grinding 571 miles.

Equipment spending for 1980 includes some $3.5 million in new or replacement equipment for an NW roadway machinery fleet that now represents an investment of more than $25 million. Another $2.9 million will go for new track maintenance rolling stock such as side-dump cars, Jordan spreaders, and locomotive cranes.

Beginning in April, NW will deploy four rail gangs—two on its Eastern Region, and one each on the Lake and Western regions—and eight tie gangs—four on the Eastern Region and two on each of the other two regions. A total of 19 surfacing gangs will be in operation. While the number of rail and tie gangs will equal those of the past several years, surfacing gangs have been reduced from the previous total of 21. Both the use of faster surfacing machines and an overall improvement in track condition as welded rail mileage grows, says Don Turney, have helped to reduce the need for surfacing gangs.

Careful planning and coordination between operating and engineering staffs at all levels, and beginning months ahead of time, help NW to resolve the conflict between the operational need to move traffic and the engineers' need to get large blocks of on-track time for their expensive production gangs. "For rail gangs we're usually able to get a full 8-hour possession," says Turney, "while for tie and surfacing gangs trains will be bunched as much as possible."

● **Planning and support.** Hard work at planning and coordinating sessions seems to pay off. In 1979, overall train delays for m/w activity were only about 13%, while production gangs were able to operate at an overall efficiency factor of more than 80%.

Supporting NW's field maintenance forces are two major m/w material plants. A rail welding plant at Bellevue, Ohio, with a production capacity of as many as 100,000 welds a year, is capable of meeting the railroad's normal annual welded rail requirements for both new and relay welded rail. The Roadway Material Yard at Roanoke fabricates panel track and panel turnouts, preplates ties, reclaims and rebuilds other track material.

While the bulk of its track work is performed by NW's large production gangs,

Today's tie gang can put close to half again as many ties in place as a 1972 gang.

divisional maintenance forces remain a key element of the railroad's track maintenance program. "We still believe in section gangs," says Durham. "We think they're required for day-to-day work. They average one every 25 to 30 miles, depending upon the territory, and run anywhere from three to six men. We use them for installing maintenance ties, repairing insulated joints, patching road crossings, brush cutting, material distribution, emergencies, and the like." Mechanization of track work doesn't end with the production gangs. "Each roadmaster has mechanized equipment in his territory," says Durham. "Most have an on-track crane, backhoe, air compressor, and various powered hand tools."

● **Inspection, inspection, inspection.** Fundamental to the success of Norfolk & Western's track maintenance program is inspection, inspection, and more inspection. "With our tonnages, inspection is vital," says Turney. "We couldn't survive without it."

Track inspection on NW is a multilevel process. At its most sophisticated level, track inspection is carried out by the railroad's self-propelled Plasser EM-80 track geometry car. Tolerances for a section of track are preinserted into the EM-80's on-board computer, which compares them with actual conditions for profile of both rails, gauge, cross level and superelevation, alignment of both rails, surface of both rails, and a twist value. The computer provides an immediate defect indication and produces a continuous printout that ties defects to mileposts and landmarks.

Updating improvements to the car since it went into service have added a capability to measure gauge through switches and provide a classification of defects into three levels of priority.

The EM-80 has been in service for about two and a half years now, and NW is using it to cover its principal main lines about three times each year. The car is operated at a top speed of 35 mph, and usually averages better than 130 miles of actual testing daily. In addition to a three-man operating crew, NW requires its local maintenance people to be on board when the car is in their territory, and the roadmaster gets an exception report at the end of his district. "We expect him to inspect the defects and take immediate corrective action," says Durham.

Durham is enthusiastic about the new capabilities that the track geometry car has given the railroad. "Previously all of our inspection was by eye," Durham told *RA*. "Now we *know* what we've got. It has become a major tool in our planning. We're using the results to plan our maintenance program for the next year. It tells our people if surfacing is needed, or if the superelevation needs correction. If we have a lot of gauge defects, we know we have to look closely at the crosstie situation."

NW conducts similar track geometry inspection of its branch lines with a small track inspection machine fabricated in the railroad's own shops. Towed over the track, the machine checks track gauge and cross level, and prints out the results on a tape.

NW contracts with the Sperry Rail Service for about 9,000 miles of rail testing for internal defects each year, and Durham points out the greatly increased need for this type of inspection. "Since fatigue and internal defects now govern rail replacement," he says, "this testing is more important than ever. The Sperry car results now greatly affect where we put our new rail."

Similar testing of branch-line rail is carried with a Hy-Rail van fitted with ultrasonic equipment that can test track at a speed of 4 to 8 mph.

Still another product of NW's versatile shops is a Hy-Rail van fitted with a clearance-measuring frame. Completed just a few years ago, the unit is still on its first systemwide tour to record clearances. NW expects to be able to recheck its clearances every 3 to 4 years with the unit.

Despite all of this sophisticated new inspection equipment, NW still depends heavily on its divisional maintenance people as a "first line" of track inspection, and that inspection program begins right at the section gang level. "We do a lot of inspecting," says Durham. "We get out to look at the railroad. We have section gangs inspecting by walking the railroad. They'll cover about 5 miles a week on a given territory, and all of our track will get a walking inspection at least every two months."

Track foremen and/or assistant roadmasters make regular track patrols that often exeed FRA requirements. Roadmasters are required to ride trains at frequent intervals to observe track conditions under load, and division engineers cover their territory at least once a month.

"We place a great deal of emphasis on supervisory field inspection at all levels," says Turney.

At the recent analysts' meeting, NW President and Chief Executive Officer John P. Fishwick spoke about the outlook for NW's basic coal traffic. After nearly a decade of decline from its all-time record level of 92 million tons in 1969, the railroad's coal business is on the way back up. NW's 1979 coal traffic of 82 million tons was at the highest level since 1970, and was the third-biggest year for coal in the railroad's history. In the wake of petroleum shortages and rising prices, European demand for Appalachian coal seems to be growing, Fishwick said. And as New England utility plants begin a shift from oil to coal fuel, he noted, Appalachian coal is again moving through Hampton Roads for barge shipment to New England.

NW has not yet released any projections of its coal traffic levels for the next few years, but given the worldwide shift from oil to coal, it is almost certain that NW will be hauling record levels of coal traffic by some time in the 1980s. When that traffic comes, it should be even more certain that NW's long-term emphasis on building and maintaining a first class track structure will continue to give the railroad the capability to efficiently and safely handle the business. ■

Market

CARLOADINGS

Loadings of revenue freight in the week ended Feb. 16 totaled 443,703 cars, according to the Association of American Railroads. This was an increase of 36,422 cars, or 8.9%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Feb. 16 are estimated at 17.1 billion, an increase of 11.3% above the corresponding week of 1979.

REVENUE FREIGHT CARLOADINGS

Commodity	**Feb. 16 week**	**Feb. 9 week**
Grain	30,442	32,371
Farm products	4,734	4,741
Metallic ores	22,056	25,265
Coal	100,533	94,848
Crushed stone, gravel & sand	12,461	12,085
Nonmetallic minerals	14,072	12,689
Grain mill products	18,924	18,898
Food and kindred products	19,560	19,040
Primary forest products	20,611	20,267
Lumber & wood products (except furniture)	11,007	10,391
Pulp, paper & allied products	21,780	21,430
Chemicals & allied products	29,417	28,438
Petroleum products	6,959	6,812
Stone, clay & glass products	15,458	14,791
Coke	6,549	5,927
Metals & products	17,888	17,299
Motor vehicles & equipment	20,020	18,897
Waste & scrap materials	14,322	13,439
Forwarder & shipping assn. traffic	11,601	11,482
All other carloads	45,053	44,012
LCL traffic	256	224
Total cars loaded	**443,703**	**433,346**
Cumulative total	**1980**	**1979**
7 weeks	3,011,896	2,783,401
Estimated revenue ton-miles (billions) 7 weeks	**116.4**	**104.6**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Feb. 9 totaled 34,243 cars (1.1% above the corresponding 1979 week) and 65,200 trailers or containers (up 3.5% from 1979). Cumulative volume for the first 6 weeks of 1980 is 194,770 (up 4.4% from 1979 and 350,815 trailers or contianers (up 7.3% from 1979).

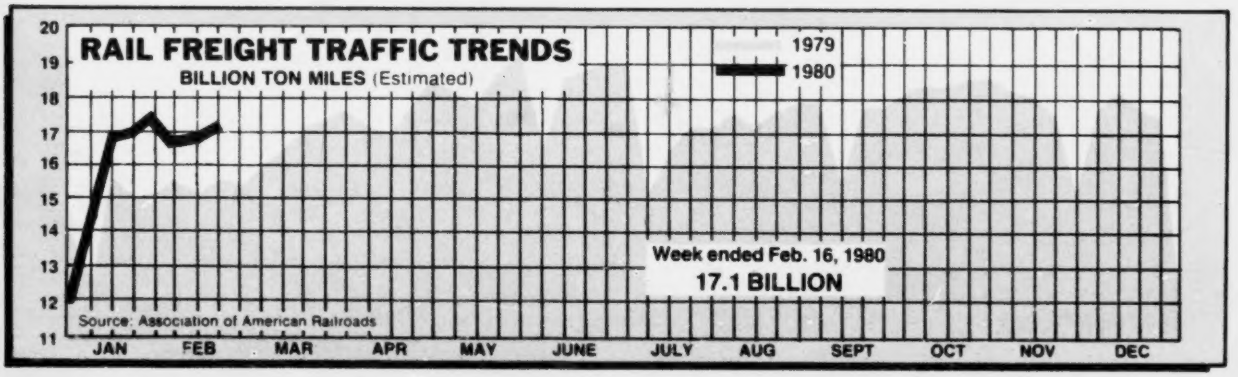
- *Amtrak.*—Will spend $27 million over the next six years to rehabilitate the New Haven, Conn.-Springfield, Mass., line. The program involves work on bridges, crossings, and signals.

- *Chesapeake & Ohio.*—Awarded an issue of $14.7 million principal amount of equipment trust certificates to a syndicate headed by Merrill Lynch White Weld Capital Markets Group on a bid of 99.2966 for 12.625% obligations. The offer represented a net interest cost of 12.7818%. The trust will finance up to 80% of the $18.5-million cost of 29 3,000-hp locomotives, of which 21 will be built by Electro-Motive and eight by General Electric.

- *Conrail.*—Will spend $1 million to expand the capacity of its Coal Pier 124 in South Philadelphia by rehabilitating equipment and dredging on the north side of the pier. This will permit the handling of 3 million tons of coal expected to move through the Port of Philadelphia in 1981 (compared with 2 million tons in 1979). Conrail also plans to spend $4 million to rehabilitate the pier structure.

- *New York Metropolitan Transportation Authority.*—Awarded a $161,507 contract to Louis Klauder and Associates for drawing up specifications for 130 new m-u cars to be acquired for service on the Long Island (70) and Conrail's Hudson and Harlem lines (60). MTA Executive Director John D. Simpson said the cars will be purchased with funds made available by the $500-million Energy Conservation Through Improved Transportation Bond Act, which New York state voters approved last November. Simpson has taken the unusual step of asking riders to participate in drawing up the car specs: "MTA welcomes all suggestions from commuters using these lines to help us determine the areas where the electric cars can be improved for passenger safety and comfort. We already have received a number of suggestions from the Conrail task force of the permanent citizens advisory committee of MTA. We hope to hear from concerned Long Island groups for their input. I fully recognize that the commuters who ride the present cars every day are the true 'experts' on what improvements could be made and I would appreciate their help."

- *Railway Services Corp.*—Will assemble 500 carsets of wheels, axles, and bearings for Marine Industries of Canada. Work under the $1.5-million contract will be performed by the Auto-Train subsidiary at its Sanford, Fla., wheel shop.



Source: Association of American Railroads

freight car maintenance

March 31, 1980

RAILWAY AGE

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MR RICHARD T EWING ###
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WASHINGTON DC 20014

DOT Secretary Neil Goldschmidt:

"An exciting decade for railroads if..."

RAILWAY AGE

March 31, 1980

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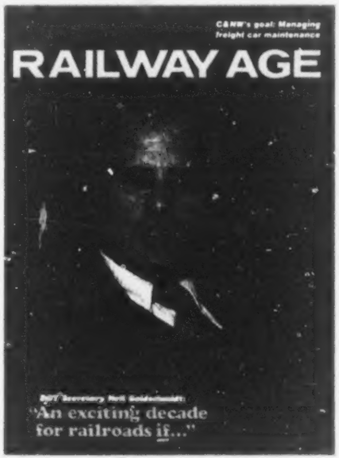
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"An exciting decade for railroads if..."

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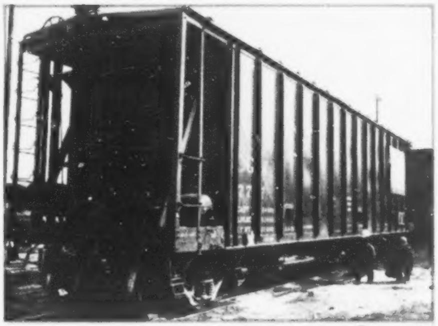

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COVER: DOT Secretary Neil Goldschmidt was photographed by Ray Cassidy during an interview with *Railway Age*.

REVENUES AND EXPENSES OF RAILWAYS

Fourth quarter figures of calendar year 1979

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

		Operating revenues				Operating expenses: Maint. of way & structures			Maint. of equipment					Operating ratio		Income after fixed charges		Net Ry. operating income	Net income	
		Freight	Other	Total 1979	Total 1978	Total 1979	Total 1978	Deprec.	Total 1979	Total 1978	Deprec.	Total 1979	Total 1978	1979	1978	1979	1978	income	1979	1978
Amtrak	3 mos.	–	97,922	97,922	80,792	16,040	13,820	369	71,210	63,458	12,684	243,142	214,374	250.0	270.0	19,067	19,170	(145,220)	19,067*	19,170
	12 mos.	–	398,418	398,418	321,187	67,580	58,109	1,664	280,784	239,574	50,631	993,519	863,486	250.0	270.0	(20,911)	(22,968)	–	(20,911)	(22,968)
Atchison, Topeka & Santa Fe	3 mos	510,613	403,479	522,555	414,540	81,110	64,565	3,547	112,577	88,689	16,692	470,917	362,853	90.1	87.5	51,151	50,860	43,856	43,088	34,818
	12 mos	1,828,001	1,491,298	1,872,620	1,530,839	313,910	267,855	11,913	406,390	330,777	69,915	1,705,303	1,388,054	91.1	90.7	158,618	125,591		128,036	92,539
Baltimore & Ohio	3 mos.	232,810	10,523	243,333	229,140	37,624	36,711	1,746	56,312	57,415	8,124	218,864	203,900	89.9	89.0	25,924	20,851	59,121	22,524	27,169
	12 mos.	877,941	44,307	922,248	830,746	160,005	140,937	6,961	216,906	215,154	28,813	857,172	770,856	92.9	92.8	62,565	49,900	–	56,068	55,029
Bessemer & Lake Erie	3 mos	27,200	4,537	31,737	29,569	4,063	3,482		6,898	5,523		24,170	19,055	76.2	64.5	8,994	10,690	1,982	3,412	4,046
	12 mos	108,194	13,255	121,449	92,776	13,979	13,153		23,018	15,953		83,622	61,684	68.9	66.5	40,344	31,315		19,883	16,806
Boston & Maine	3 mos.	26,136	1,272	27,408	24,452	7,226	7,046	276	8,203	5,982	614	31,461	24,979	114.8	102.2	(3,669)	1,804	(3,993)	(3,906)	1,600
	12 mos.	103,134	4,915	108,049	91,490	28,603	20,096	1,106	31,322	24,568	2,485	119,153	93,500	110.3	102.2	(9,067)	349	–	18,515	(470)
Burlington Northern	3 mos	668,425	19,652	688,077	527,840	137,901	126,862	5,085	147,704	120,271	16,432	652,467	520,136	94.8	98.5	45,161	17,657	40,236	49,779	19,810
	12 mos	2,370,650	75,751	2,446,402	1,976,409	508,738	420,811	20,130	555,585	448,304	64,500	2,340,185	1,899,194	95.7	96.1	155,442	103,995		175,221	113,550
Chesapeake & Ohio	3 mos.	214,649	11,617	226,265	191,339	34,232	30,156	1,352	48,975	43,837	6,826	197,471	173,956	87.3	90.9	59,865	47,508	47,066	50,874	50,716
	12 mos.	768,050	44,586	812,635	672,110	137,009	121,048	5,343	183,896	160,923	24,107	746,494	660,390	91.9	98.3	137,470	59,243	–	118,129	68,865
Chicago & North Western	3 mos	188,783	21,123	209,906	173,637	35,053	32,814	848	56,414	44,966	4,526	201,283	169,394	95.9	97.6	6,546	48	8,559	6,473	11
	12 mos	669,472	77,971	747,442	652,563	150,634	129,760	2,998	213,514	174,133	18,008	766,363	650,835	102.5	99.7	(36,561)	(16,364)	(19,070)	(36,744)	(15,910)
Chicago, Milwaukee, St. Paul & Pac	3 mos.	101,399	24,886	126,285	117,525	30,263	25,632	1,030	41,583	37,657	4,997	149,703	130,456	118.5	111.0	(21,781)	(12,641)	(23,368)	(21,781)	(12,641)
	12 mos.	392,269	63,178	455,446	447,552	105,437	89,261	4,285	172,507	154,568	18,520	574,361	521,952	126.1	116.6	(105,178)	(65,167)	(18,814)	(105,178)	(65,167)
Clinchfield	3 mos	18,999	282	19,281	17,995	3,475	3,541	110	2,725	3,783	1,024	14,351	14,440	74.4	80.2	(235)	105	5,698		
	12 mos	64,850	1,357	66,207	62,202	13,586	13,688	422	12,126	13,852	3,885	54,087	52,549	81.7	84.5	(74)	251			
Colorado & Southern	3 mos.	23,557	594	24,151	18,310	7,175	3,685	57	6,468	4,824	840	28,209	18,532	117.0	101.0	4,296	3,011	(2,113)	6,240	3,022
	12 mos.	85,687	1,994	87,681	64,549	25,700	16,172	220	21,578	19,748	2,831	96,274	67,296	110.0	104.0	10,822	3,289	(4,387)	15,029	3,374
Conrail	3 mos	815,754	164,156	979,910	892,641	209,893	208,091	2,806	291,274	289,540	21,686	1,098,334	1,037,784	112.1	116.3	(122,104)	(141,283)	488,616	(122,451)	(141,932)
	12 mos	3,155,433	615,043	3,770,466	3,310,637	848,556	817,254	10,315	1,122,633	1,107,118	74,551	4,260,552	3,990,607	113.0	120.5	(488,520)	(682,103)		(487,631)	(681,484)
Delaware & Hudson	3 mos.	27,972	506	28,478	22,420	5,312	4,098	154	8,509	7,038	404	28,855	24,501	101.3	109.3	(1,113)	2,950	(381)	1,113	2,950
	12 mos.	99,528	2,709	102,237	84,933	18,124	13,947	612	32,939	28,280	1,621	108,339	93,370	106.0	109.9	(8,637)	11,669	–	8,637	11,669
Denver & Rio Grande Western	3 mos	66,629	1,103	67,732	57,812	11,452	10,534	593	10,282	8,898	2,748	56,742	46,148	83.78	79.82	9,889	11,573	8,813	7,677	7,958
	12 mos	251,484	6,000	257,484	218,016	47,115	40,728	2,343	40,132	34,740	10,260	216,877	179,755	84.23	82.45	39,723	37,792	28,740	27,670	24,501
Detroit, Toledo & Ironton	3 mos.	19,761	1,061	20,822	20,828	3,129	3,309	132	6,464	5,507	451	20,511	18,820	98.5	90.4	150	1,801	331	158	2,206
	12 mos.	78,807	5,458	84,264	70,977	13,377	10,574	535	24,361	21,048	1,755	80,857	67,636	96.0	95.2	3,122	2,699	3,462	3,130	3,104
Duluth, Missabe & Iron Range	3 mos	22,019	439	22,459	19,914	9,689	6,497	1,934	2,600	3,556	98	22,475	18,892	100.0	95.0	942	1,301	671	308	617
	12 mos	93,402	3,407	96,809	82,658	28,172	23,546	3,230	11,111	9,716	2,073	79,556	70,578	82.0	85.0	19,527	13,131		9,498	6,322
Elgin, Joliet & Eastern	3 mos.	21,751	12,528	34,279	32,474	4,155	3,504	180	5,303	1,527	1,100	27,907	21,753	81.4	67.0	8,112	6,334	2,156	3,896	3,548
	12 mos.	83,836	62,004	145,843	126,206	16,132	14,659	716	23,423	14,856	4,382	112,909	94,722	77.4	75.1	38,395	28,831	14,525	19,987	15,038
Florida East Coast	3 mos	22,243	746	22,989	19,748	5,362	4,351	228	3,641	3,343	853	17,885	15,841	77.8	80.2	13,612	4,806	1,940	9,683	4,077
	12 mos	76,712	2,394	79,106	68,587	17,792	15,329	925	11,646	9,542	3,219	62,279	53,914	78.7	78.6	50,153	18,648		35,266	13,125
Ft. Worth & Denver	3 mos.	25,478	836	26,314	18,094	4,186	4,140	66	6,385	2,995	233	21,857	14,442	83.0	80.0	5,147	3,269	2,809	3,500	3,263
	12 mos.	90,713	2,514	93,227	63,457	13,702	14,599	263	22,066	14,614	528	76,153	57,449	82.0	91.0	18,064	5,774	13,147	14,138	5,765
Grand Trunk Western	3 mos	50,810	2,759	53,569	48,290	5,526	4,704	420	13,294	7,675	1,200	51,123	46,291	95.4	95.9	3,101	5,129		7,791	5,129
	12 mos	198,511	14,674	213,185	189,474	27,382	23,193	1,914	56,370	46,567	4,672	210,651	185,491	98.8	97.9	4,342	7,921		9,032	7,921
Illinois Central Gulf	3 mos.	223,095	18,739	241,834	201,524	46,338	37,812	1,681	64,742	52,595	7,983	239,412	196,700	99.0	97.6	(4,073)	20,049	(26,909)	(3,788)	19,481
	12 mos.	780,804	72,492	853,296	748,662	168,731	138,269	6,550	241,295	201,058	29,388	883,146	746,104	103.5	99.7	(32,720)	(301)	–	(32,072)	(1,972)

Kansas City Southern	3 mos	59,199	3,717	62,916	51,461	11,034	11,859	266	15,571	12,827	3,261	55,458	47,186	88.1	91.7	7,547	5,021	5,063	5,134	3,146
	12 mos	208,938	12,478	221,415	192,150	41,632	37,399	2,181	52,596	45,590	11,785	197,120	170,291	89.0	88.6	23,488	19,484		17,806	14,382
Long Island	3 mos.	4,662	72,602	77,263	24,939	18,009	22,034	838	19,624	16,893	1,425	90,393	89,940	117.0	72.0	(12,462)	34,970	(12,087)	(12,462)	34,970
	12 mos.	19,472	283,426	300,807	255,453	72,042	68,149	3,356	73,031	62,815	5,376	334,688	304,929	111.3	119.4	(34,017)	(49,875)	(29,733)	(34,017)	(49,875)
Louisville & Nashville	3 mos	260,179	6,718	266,897	223,361	43,114	35,207	1,727	65,308	59,130	9,680	249,741	212,059	93.6	94.9	18,912	2,943	19,629	16,765	(2,151)
	12 mos	945,916	27,323	973,239	824,429	166,022	129,110	6,347	248,250	229,600	39,201	926,410	803,728	95.2	97.5	20,294	(21,336)		28,779	(31,198)
Missouri-Kansas-Texas	3 mos.	46,452	2,028	48,479	36,007	8,393	7,113	280	13,376	9,961	628	45,978	36,121	94.8	100.3	1,087	(1,434)	3,707	2,292	159
	12 mos	158,885	7,202	166,087	135,676	30,728	25,978	1,095	47,117	38,148	2,293	163,189	134,805	98.3	99.4	(1,923)	(3,695)	9,278	4,467	2,405
Missouri Pacific	3 mos	372,887	9,639	382,525	317,193	46,320	45,008	2,422	88,562	73,259	13,810	326,472	264,303	85.4	83.3	48,119	47,157	47,361	37,059	30,314
	12 mos	1,374,811	43,916	1,418,727	1,198,064	211,503	185,520	9,575	325,169	276,096	52,569	1,234,979	1,019,493	87.1	85.1	152,976	153,291	150,236	110,027	101,139
Norfolk & Western	3 mos.	359,278	14,246	373,524	324,606	49,560	52,269	3,309	71,595	62,400	13,848	287,048	268,102	76.9	82.6	96,374	86,952	180,593	57,142	98,508
	12 mos.	1,378,116	52,778	1,430,894	996,476	213,351	160,817	13,042	261,433	217,394	54,581	1,124,510	880,008	78.6	88.3	329,574	188,561	–	198,596	167,597
Pittsburgh & Lake Erie	3 mos	20,252	1,469	21,721	20,469	2,929	2,410	71	1,533	1,293	1,100	14,977	13,227	69.0	64.6	3,401	6,211	16,599	2,973	3,808
	12 mos	72,358	6,598	78,956	65,856	11,353	10,146	416	6,129	4,614	4,736	58,095	50,548	73.6	76.8	15,490	10,888		11,260	7,707
St. Louis-San Francisco	3 mos.	114,471	3,303	117,774	98,922	16,959	13,797	888	26,613	22,013	3,500	104,742	88,436	88.9	88.7	11,160	7,166	11,528	9,284	6,546
	12 mos	424,982	13,405	438,387	388,230	72,033	64,933	3,381	97,886	84,591	14,251	401,738	349,693	91.6	90.1	24,500	22,594	–	19,753	20,617
St. Louis Southwestern	3 mos.	67,299	670	67,969	59,655	9,292	8,194	345	11,639	10,757	5,691	58,112	49,155	85.5	82.4	9,473	11,919	4,420	4,035	9,784
	12 mos	258,499	2,603	261,102	226,338	40,313	38,917	1,347	42,367	37,444	22,170	218,195	189,018	83.6	83.5	44,121	37,500		36,777	32,898
Seaboard Coast Line	3 mos.	281,573	9,266	290,839	240,707	44,584	36,306	1,970	66,702	51,571	7,832	259,003	207,676	89.1	86.3	52,034	31,922	26,715	46,829	32,135
	12 mos.	1,015,652	34,095	1,049,747	910,509	175,234	139,630	7,730	246,265	214,943	30,911	949,241	313,163	90.4	89.3	136,831	66,265	–	135,466	69,354
Soo Line	3 mos	84,394	2,384	86,779	68,756	13,610	13,629	318	15,199	12,947	1,869	67,165	58,608	77.4	85.2	19,477	9,796	28,586	12,019	6,533
	12 mos	283,432	7,079	290,511	251,279	53,472	48,809	1,243	59,527	49,386	7,280	246,268	213,199	84.8	84.8	44,305	36,701		27,568	23,323
Southern	3 mos.	385,772	10,471	396,243	337,099	73,492	67,865	6,386	75,689	64,285	17,647	337,426	288,208	85.2	85.5	47,623	42,226	200,842	33,315	30,750
	12 mos.	1,426,998	40,272	1,467,270	1,260,671	269,072	230,860	21,287	271,477	233,796	67,679	1,208,917	1,044,360	82.4	82.8	223,117	181,060	–	160,622	127,319
Southern Pacific	3 mos	488,444	12,373	500,817	429,168	64,300	56,886	4,589	135,899	121,475	20,364	494,383	405,452	98.7	94.5	17,578	31,048	2,209	8,941	30,596
	12 mos	1,882,271	48,253	1,930,524	1,653,884	277,635	252,927	18,490	527,501	470,508	74,087	1,882,134	1,616,275	97.5	97.7	69,231	50,941		56,514	49,369
Union Pacific	3 mos.	465,686	8,085	473,771	397,363	68,019	59,192	2,582	88,546	74,418	21,443	401,044	325,649	84.6	82.0	60,855	64,485	57,764	45,888	42,744
	12 mos.	1,711,508	30,785	1,742,294	1,491,315	281,458	239,192	10,345	320,945	271,548	83,352	1,495,237	1,238,947	85.8	83.1	205,327	214,270	190,819	149,142	141,801
Western Maryland	3 mos	20,956	844	21,800	16,894	3,219	2,997	124	1,316	(245)	1,352	14,146	11,214	64.9	66.4	7,446	6,810	13,667	4,886	4,518
	12 mos.	73,389	5,023	78,412	65,180	13,147	12,374	491	7,371	8,255	5,010	57,908	55,638	73.9	85.4	20,522	10,444		13,656	7,238
Western Pacific	3 mos.	42,881	849	43,730	–	5,956	–	54	9,276	–	1,248	41,844	–	95.7	–	2,791	–	1,952	2,480	–
	12 mos.	127,488	2,881	130,369		17,389	–	268	31,822	–	3,594	127,951	–	98.1	–	4,537	–	–	3,934	–

*Positive net income figure of $19 067 million derives from application of $178.9 million federal subsidies as "Other Income" less net operating deficit and fixed interest charges.

RAILWAY AGE ADVERTISING SALES

William J. Cavenagh, Director

New York, N Y. 10013
350 Broadway (212) 966-7700
W. Arthur Cubbage, Regional Sales Mgr.

Chicago, Ill. 60602
29 E. Madison St. (312) 641-5815
Robert D Bartley, Regional Mgr.
Glen A. Schlueter
Regional Sales Mgr.

Pittsburgh, Pa. 15237
3232 Babcock Boulevard
(412) 931-8552
Ronald M. Giallonardo,
Regional Sales Mgr.

Dallas, Tex. 75225
P.O. Box 25045
Preston Station
(214) 361-6972
Joseph Sanders

Santa Monica, CA 90403
2444 Wilshire Blvd.
(213) 829-0281
Fred Klaner, Jr.
Philip O. Bowers

Sausalito, Cal. 94965
3030 Bridgeway Building
(415) 332-6750
Chris Vogler

Kent, BR6 0HE, England
Priory Gate House
Church Hill
Orpington
Kenneth J. Hendry
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2000 Hamburg 76, W. Germany
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Minato-ku
Telephone: 453-7361
Cable: SUNGAINSHIA,TOKYO

QUARTERLY INDEXES

Railroad charge-out prices and wage rates (Average 1967 = 100)

(Charge-out indexes reflect the original purchase price of fuel, material, and supplies charged to railroad operating expense accounts on the first day of the quarter. The indexes are developed from quarterly spot price indexes by providing appropriate lags between time of purchase and time charged to operating expense accounts. Wage rate indexes are based on average straight time hourly rates for the first month of the quarter; wage supplements indexes are based on the average per straight time hour paid for payroll taxes, health and welfare benefits, vacations, holidays, and other allowances.)

District and group	Jan. 1977	Apr. 1977	July 1977	Oct. 1977	Jan. 1978a	Apr. 1978a	July 1978a	Oct. 1978a	Jan. 1979	Apr. 1979	July 1979	Oct. 1979	Jan. 1980
UNITED STATES:													
Fuel	360.4	381.1	395.3	399.0	403.1	405.9	405.0	407.2	419.7	469.6	603.2	739.7	818.1
Other materials & supplies	209.6	213.8	216.8	221.3	224.4	227.0	230.2	233.4	239.1	245.7	250.4	260.2	268.3
All material incl. fuel	252.1	260.6	266.5	270.9	274.3	277.0	279.2	282.1	289.8	307.5	345.6	387.9	414.4
Wage rates	219.4	220.0	231.3	232.8	240.8	248.2	254.8	259.7	267.5	267.5	285.6	285.6	294.0
Material prices & wages (and fuel)	229.6	232.7	242.3	244.7	251.3	257.2	262.4	266.7	274.5	280.0	304.4	317.8	331.7
Wages & supplements	241.6	243.1	253.6	254.7	267.2	272.9	278.1	281.9	294.1	294.1	311.4	311.4	321.6
Material prices, wages & supplements (excl. fuel)	235.4	237.4	246.4	248.2	258.9	263.9	268.8	272.4	283.4	284.7	299.5	301.4	311.2
Material prices, wages & supplements (incl. fuel)	244.5	247.9	257.1	259.2	269.2	274.0	278.4	282.0	292.9	297.8	320.8	332.4	347.1
EASTERN DISTRICT:													
Fuel	361.4	386.7	405.0	407.6	411.1	416.3	413.4	413.1	422.1	476.3	580.1	713.7	795.9
Other materials & supplies	204.4	208.5	210.2	213.4	216.2	217.2	221.5	226.0	230.2	239.6	243.0	252.9	260.8
All material incl. fuel	247.7	257.4	263.5	266.4	269.6	271.6	274.1	277.4	282.9	304.0	333.1	374.7	402.0
Wage rates	220.1	220.6	229.9	232.8	242.6	249.5	257.7	262.6	270.4	270.4	288.5	288.5	297.0
Material prices & wages (and fuel)	227.5	230.4	238.9	241.8	249.8	255.4	262.1	266.6	273.7	279.4	300.4	311.5	325.0
Wages & supplements	242.4	243.9	252.8	255.1	270.3	275.8	282.1	285.9	298.2	298.2	315.7	315.7	326.7
Material prices, wages & supplements (excl. fuel)	236.2	238.2	246.0	248.3	261.5	266.3	272.3	276.2	287.2	288.7	303.9	305.5	316.0
Material prices, wages & supplements (incl. fuel)	243.6	247.0	255.3	257.7	270.1	274.8	280.2	283.9	294.6	299.6	319.8	329.4	344.2
SOUTHERN DISTRICT:													
Fuel	332.0	354.3	369.3	372.2	375.6	375.3	373.0	374.7	389.1	428.4	509.3	622.7	695.7
Other materials & supplies	206.2	209.9	213.3	217.9	220.0	223.3	226.1	229.5	234.7	240.4	246.3	254.0	262.4
All material incl. fuel	239.7	248.6	255.0	259.2	261.6	263.9	265.4	268.4	276.0	290.7	316.8	353.2	378.9
Wage rates	218.9	219.4	233.6	233.2	239.6	248.9	255.5	260.4	268.3	268.3	286.5	286.5	295.0
Material prices & wages (and fuel)	226.0	229.4	240.9	242.1	247.1	254.0	258.9	263.1	270.9	275.9	296.8	309.2	323.6
Wages & supplements	241.9	243.5	256.3	255.9	265.9	273.2	278.5	282.4	294.3	294.3	311.8	311.8	324.3
Material prices, wages & supplements (excl. fuel)	234.2	236.2	247.0	247.7	256.0	262.4	267.2	271.0	281.4	282.7	297.7	299.3	310.9
Material prices, wages & supplements (incl. fuel)	241.2	245.0	255.9	256.9	264.6	270.4	274.6	278.2	288.8	293.2	313.3	324.3	340.7
WESTERN DISTRICT:													
Fuel	370.0	387.7	399.6	404.1	409.2	411.5	412.1	416.0	429.1	480.8	650.1	796.6	874.6
Other materials & supplies	213.9	218.5	221.9	227.2	230.8	233.7	236.5	239.2	244.7	251.6	256.3	266.8	274.8
All material incl. fuel	260.3	268.3	274.0	279.3	283.4	286.2	288.5	291.7	299.3	317.9	364.7	410.3	436.5
Wage rates	219.4	220.0	231.9	232.8	240.3	247.1	253.0	257.9	265.8	265.8	283.7	283.7	292.2
Material prices & wages (and fuel)	233.2	236.3	246.1	248.5	254.8	260.3	265.0	269.3	277.1	283.4	311.0	326.4	340.8
Wages & supplements	243.7	243.7	253.7	254.4	265.9	271.2	257.8	279.6	291.7	291.7	309.0	309.0	318.6
Material prices, wages & supplements (excl. fuel)	235.4	237.6	246.9	248.6	258.4	263.2	267.4	271.0	281.6	283.1	297.7	300.0	309.2
Material prices, wages & supplements (incl. fuel)	246.9	250.4	259.7	261.8	271.1	275.7	279.6	283.2	294.0	299.5	325.5	339.1	353.6

a—Wage rates in 1978 reflect the effects of retroactive pay increases applicable to time worked in 1978 but paid in 1979.

Spot prices of railroad fuel, material, and supplies (Average 1967 = 100)

(Spot price indexes reflect the price on the first day of the respective month of 65 major items of railroad purchases reported by 10 major railroads representing about two-thirds of total purchases by all Class I railroads.)

District and group	Jan. 1977	Apr. 1977	July 1977	Oct. 1977	Jan. 1978	Apr. 1978	July 1978	Oct. 1978	Jan. 1979	Apr. 1979	July 1979	Oct 1979	Jan. 1980
UNITED STATES:													
Fuel (diesel oil)	363.3	389.9	398.1	399.7	405.0	406.2	404.4	408.8	425.4	491.6	659.1	780.2	837.3
Forest products	217.0	225.2	229.4	234.0	240.0	240.9	250.8	258.6	264.5	272.3	286.2	297.2	321.6
Iron & steel prod.	223.7	224.1	230.1	233.1	235.4	242.5	245.8	252.4	263.0	268.7	277.5	286.9	305.3
Miscellaneous prod.	208.2	212.1	215.7	218.2	220.1	221.3	222.5	227.0	231.1	234.3	243.7	250.4	261.1
Total, excl. fuel	213.8	216.8	221.3	224.4	227.0	230.2	233.4	239.1	245.7	250.4	260.2	268.3	283.6
Total, incl. fuel	255.9	265.1	270.7	273.4	276.5	279.5	281.5	286.8	296.3	316.9	367.3	404.7	430.9
EASTERN DISTRICT:													
Fuel (diesel oil)	365.2	397.3	408.9	407.0	413.4	417.9	411.1	414.0	426.0	501.4	619.6	760.9	813.3
Forest products	208.4	212.4	217.9	220.9	224.8	225.4	234.2	237.5	251.0	254.6	267.0	274.8	280.9
Iron & steel prod.	213.5	213.5	218.8	221.6	221.6	229.9	234.1	240.1	251.6	257.1	266.0	274.0	290.6
Miscellaneous prod.	209.6	212.8	213.1	215.6	216.8	218.4	222.0	224.4	231.0	232.4	242.8	250.6	257.4
Total, excl. fuel	208.5	210.2	213.4	216.2	217.2	221.5	226.0	230.2	239.6	243.0	252.9	260.8	271.4
Total, incl. fuel	251.8	261.5	266.9	268.4	270.9	275.2	277.0	280.8	291.2	313.0	350.9	393.0	414.4
SOUTHERN DISTRICT:													
Fuel (diesel oil)	334.6	364.2	371.9	372.2	377.3	374.4	372.4	375.8	395.9	444.8	541.6	663.4	711.8
Forest products	225.7	227.4	232.2	230.4	240.2	242.0	255.4	258.7	266.5	276.9	288.4	299.7	309.7
Iron & steel prod.	225.4	226.2	232.6	236.2	238.0	245.5	247.3	254.3	263.1	369.3	277.4	288.0	304.5
Miscellaneous prod.	199.2	205.9	209.0	211.1	213.7	212.1	213.5	217.8	219.9	224.0	230.2	235.9	247.1
Total, excl. fuel	209.9	213.3	217.9	220.0	223.3	226.1	229.5	234.7	240.4	246.3	254.0	262.4	275.3
Total, incl. fuel	243.3	253.7	259.3	260.7	264.6	265.8	267.8	272.4	282.0	299.4	331.3	370.2	392.7
WESTERN DISTRICT:													
Fuel (diesel oil)	372.3	395.4	401.8	405.4	410.5	412.1	412.1	417.9	434.9	503.6	723.0	833.2	895.5
Forest products	223.8	237.1	240.7	250.2	254.8	255.8	265.2	259.9	279.0	288.0	304.2	317.5	357.2
Iron & steel prod.	221.7	221.7	227.6	230.6	233.7	238.9	242.8	250.1	260.4	265.3	274.9	283.4	304.9
Miscellaneous prod.	212.1	215.9	220.9	223.8	226.2	227.9	228.4	234.9	236.9	240.8	250.5	257.3	269.5
Total, excl. fuel	218.5	221.9	227.2	230.8	233.7	236.5	239.2	244.7	251.6	256.3	266.8	274.8	293.3
Total, incl. fuel	264.4	273.1	278.6	282.5	286.0	288.7	290.5	296.5	305.9	327.3	391.5	426.0	456.2

Note: Based on prices as of first day of months shown.

Source: Economics and Finance Dept., AAR.

Market

CARLOADINGS

Loadings of revenue freight in the week ended March 8 totaled 440,904 cars, according to the Association of American Railroads. This was a decrease of 15,250 cars, or 3.3%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended March 8 are estimated at 18.3 billion, an increase of 6.5% above the corresponding week of 1979.

REVENUE FREIGHT CARLOADINGS

Commodity	**Mar. 8 week**	**Mar. 1 week**	**Feb. 23 week**
Grain	29,713	30,821	30,467
Farm products	3,882	4,164	4,257
Metallic ores	24,845	23,160	21,578
Coal	100,126	106,522	106,925
Crushed stone, gravel & sand	11,953	13,634	13,098
Nonmetallic minerals	13,661	14,286	13,344
Grain mill products	17,963	18,542	18,258
Food and kindred products	19,184	19,692	18,139
Primary forest products	19,059	21,139	21,427
Lumber & wood products (except furniture)	10,202	11,803	11,074
Pulp, paper & allied products	21,599	22,170	21,662
Chemicals & allied products	29,318	30,800	28,419
Petroleum products	6,072	6,365	6,446
Stone, clay & glass products	15,140	16,219	14,829
Coke	6,772	7,063	6,325
Metals & products	18,626	19,317	17,393
Motor vehicles & equipment	20,764	21,099	21,248
Waste & scrap materials	13,661	14,065	13,568
Forwarder & shipping assn. traffic	12,461	12,283	11,275
All other carloads	45,653	45,233	43,174
LCL traffic	250	298	307
Total cars loaded	440,904	458,975	443,213

	1980	1979
Cumulative total, 10 weeks	**4,355,052**	**4,079,610**
Estimated revenue ton-miles (billions) 10 weeks	**171.5**	**153.6**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended March 1 totaled 34,680 cars (7.1% below the corresponding 1979 week) and 63,780 trailers or containers (down 4.5% from 1979). Cumulative volume for the first 9 weeks of 1980 is 297,073 (up 1.9% from 1979 and 537,077 trailers or containers (up 4.2% from 1979).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended Feb. 14 totaled 4.8 million tons (up 19.9% from 1979). Cars loaded totaled 73,105 (up 15.8% from 1979). Cumulative loadings from 1979 were up to 28.4 million tons (up 4.6% from 1979).

• *Amtrak.*—Has signed a letter of intent with the Budd Co. for the purchase of 150 new intercity passenger cars estimated to cost $150 million (*RA*, Mar. 10, p. 11). A final agreement is still being negotiated, and some engineering details remain to be completed. The new cars will have body shells similar to the medium-distance Amfleet cars built earlier by Budd, but interiors and mechanical systems will be designed for long-distance service. The first of the new cars is to be delivered within 17 months, and the entire order is to be completed 10 months later.

• *Locomotive ownership and condition.*—Class I roads owned or leased 27,937 diesel-electric units on Jan. 1, an increase of 728 units over Jan. 1, 1979, according to AAR yearly summary.

	Owned or Leased Jan. 1		**Stored Serviceable Jan. 1**		**Waiting Shops Jan. 1**	
	1980	**1979**	**1980**	**1979**	**1980**	**1979**
Diesel-electric (units)	27,937	27,209	443	73	1,259	1,327
Steam (locomotives)	1	1	1	1	–	–
Electric (units)	103	139	–	–	–	16
Total	**28,041***	**27,349****	**444**	**74**	**1,259**	**1,343**

* Includes 82 slug units
** Includes 77 slug units

• *Freight cars and locomotives.*—The following report has been received from the AAR and ARCI:

DELIVERED

	January		**December**
	1980	**1979**	**1979**
Built new by carbuilders	7,365	5,667	7,376
Built new in RR shops	470	381	708
Built new - total	7,835	6,048	8,084
Rebuilt	65	2	16
TOTAL DELIVERED	**7,900**	**6,050**	**8,100**
Locomotives	169	134	160

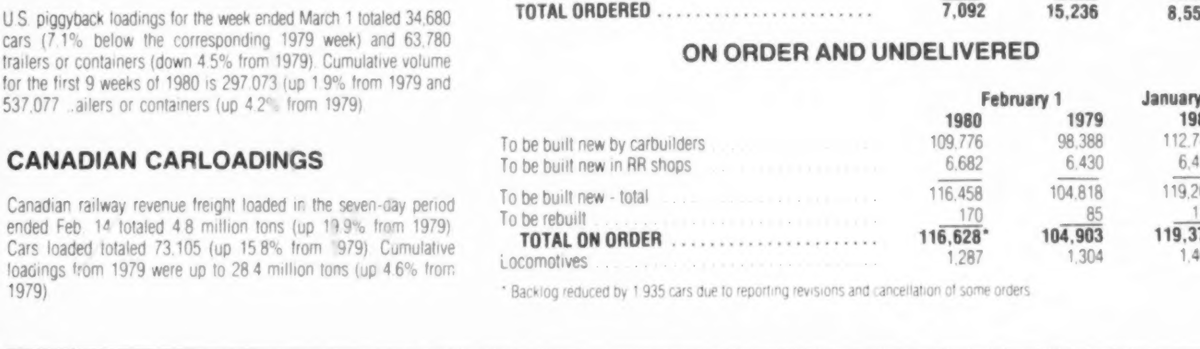
ORDERED

	January		**December**
	1980	**1979**	**1979**
To be built new by carbuilders	6,327	14,736	7,538
To be built new in RR shops	700	500	1,000
To be built new - total	7,027	15,236	8,538
To be rebuilt	65	0	16
TOTAL ORDERED	**7,092**	**15,236**	**8,554**

ON ORDER AND UNDELIVERED

	February 1		**January 1**
	1980	**1979**	**1980**
To be built new by carbuilders	109,776	98,388	112,749
To be built new in RR shops	6,682	6,430	6,452
To be built new - total	116,458	104,818	119,201
To be rebuilt	170	85	170
TOTAL ON ORDER	**116,628***	**104,903**	**119,371**
Locomotives	1,287	1,304	1,460

* Backlog reduced by 1,935 cars due to reporting revisions and cancellation of some orders



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States rediscover the passenger train

April 14, 1980

RAILWAY AGE

SECOND IN A SERIES

Railroad technology

The state of the art —and beyond

Motive power

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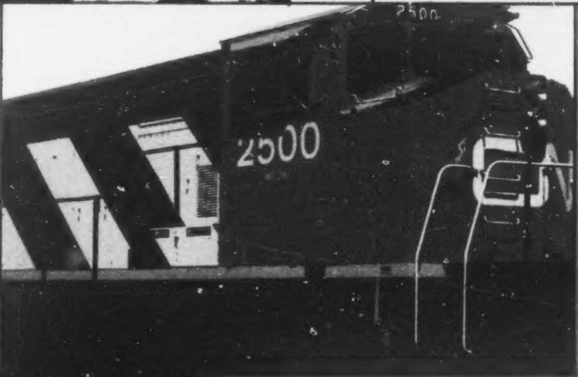
3805
ta Fe

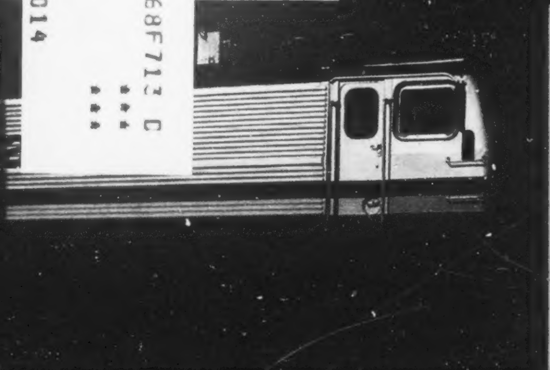
Electro-Motive

8250
8250
sie System C&O
8250

General Electric



Bombardier



EMD/ASEA

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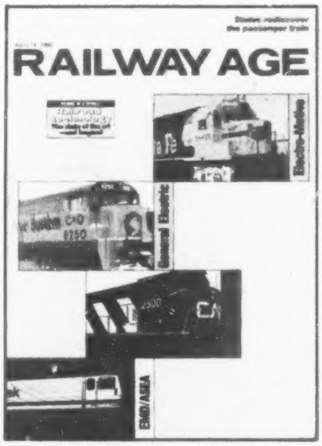
MR RICHARD T EWING ***
CONGRESSIONAL INFC SVC ***
7101 WISCONSIN AVE
WASHINGTON DC 20014

RAILWAY AGE

April 14, 1980

FEATURES



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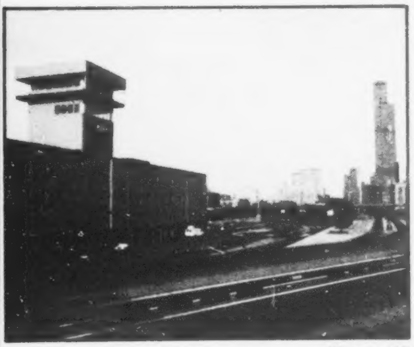

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Railroad technology—Motive power

16 Goal of the '80s: Fuel efficiency
Ten years ago it cost far more to maintain a diesel locomotive than to fuel it. Today the tables have been turned—and fuel efficiency is getting first priority as a new generation of power comes off the lines.

17 The great adhesion race
"The great horsepower race" is fast fading into history. One chief mechanical officer says: "Horsepower is what you use to burn extra fuel; reliable traction force is what you use to get the trains over the road." Each builder has an answer.

27 Milwaukee reexamines its options
ICC rejection of the Milwaukee II reorganization plan was a setback, but the railroad still sees "a reasonable chance for the trustee to create a viable midwestern regional carrier."

36 States rediscover the passenger train
With gas prices soaring and airline service faltering, states are beginning to press for more train service—but how they're going about it has Congress and some railroads worried.

46 Amtrak: The shop that came in from the cold
A four-track car shop that went into service in January is just one of many projects already paying off as a $43.6-million modernization of Chicago facilities nears completion.

NEWS

4 Short and Significant
8 In 1990, 10 million piggyback trailerloads?
8 Budd has questions on car procurement
10 C&NW: The goal is still coal
11 Japan: A new look at light rail
11 GE lands biggest locomotive order
12 GTW to buy DT&I for $25.2 million
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COVER: Photos show the EMD GP-40X (top); the GE B-30; Bombardier's M420, predecessor of the HRC; and the EMD/ASEA AEM-7.

Market

CARLOADINGS

Loadings of revenue freight in the week ended March 22 totaled 464,225 cars, according to the Association of American Railroads. This was a decrease of 14,016 cars, or 2.9%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended March 22 are estimated at 19.1 billion, an increase of 6.4% above the corresponding week of 1979.

REVENUE FREIGHT CARLOADINGS

Commodity	**Mar. 22 week**	**Mar. 15 week**
Grain	31,507	31,767
Farm products	3,729	3,786
Metallic ores	26,461	24,531
Coal	111,879	111,216
Crushed stone, gravel & sand	14,278	13,667
Nonmetallic minerals	15,175	14,269
Grain mill products	17,625	17,972
Food and kindred products	19,267	19,180
Primary forest products	20,047	20,141
Lumber & wood products (except furniture)	10,395	10,333
Pulp, paper & allied products	22,300	21,198
Chemicals & allied products	30,084	30,465
Petroleum products	6,109	6,323
Stone, clay & glass products	15,556	16,283
Coke	7,301	7,529
Metals & products	18,998	18,528
Motor vehicles & equipment	20,520	20,626
Waste & scrap materials	14,016	14,151
Forwarder & shipping assn. traffic	12,294	11,792
All other carloads	46,337	45,640
LCL traffic	347	256
Total cars loaded	**464,225**	**459,663**
Cumulative total,	**1980**	**1979**
12 weeks	**5,279,008**	**5,030,563**
Estimated revenue ton-miles (billions) 12 weeks	**209.5**	**189.3**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended March 15 totaled 35,210 cars (9.4% below the corresponding 1979 week) and 63,869 trailers or containers (down 8.2% from 1979). Cumulative volume for the first 11 weeks of 1980 is 367,927 cars (down 0.2% from 1979) and 666,362 trailers or containers (up 1.9% from 1979).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended Feb. 29 totaled 5.7 million tons (up 28.8% from 1979). Cars loaded totaled 86,219 (up 24% from 1979). Cumulative loadings for 1979 were up to 38.9 million tons (up 9.5% from 1979).

- *Amtrak.*—Awarded contracts to Morrison-Knudsen, Inc., and Railway Services Corp. (a subsidiary of Auto-Train) to overhaul and refurbish up to 175 passenger cars. Morrison-Knudsen will overhaul 50 cars, with an option on up to 75 more, at its Boise, Ida., shops, for a total price of $10 million. Railway Services Corp. will refurbish 25 in Sanford, Fla., with an option on up to 25 more, for a total price of $4 million. While Amtrak's best steam-heated cars are being converted to head-end electrical power at Amtrak's Beech Grove facility, these 175 cars will be given two to three years of extended life through the refurbishing program.

- *BRAE Corp.*—Has formed an arrangement with Ford Motor Credit Co. under which the two companies will own and lease a $47-million fleet of freight cars, principally covered hoppers. Ford Credit will have an 85% ownership interest and BRAE 15%. BRAE will both market and manage the cars.

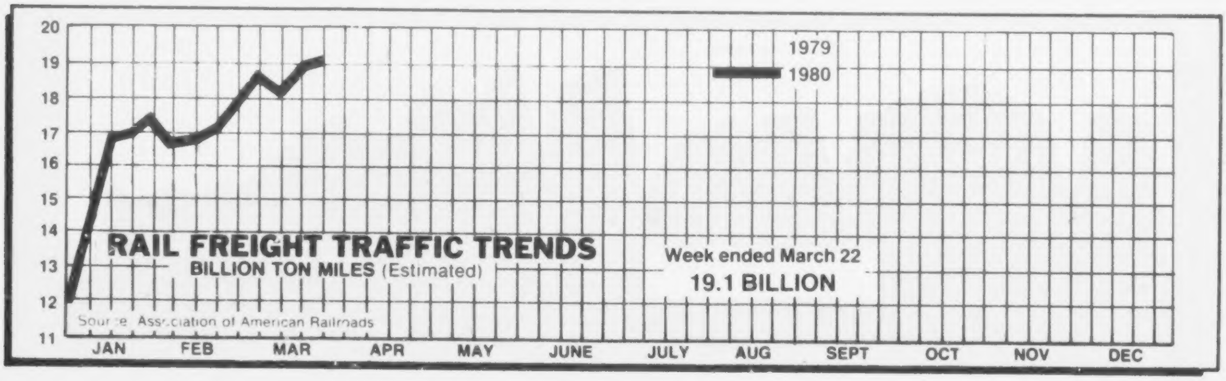
- *Chicago & North Western.*—Is leasing approximately 4,100 Rock Island freight cars, at an annual rental estimated at $13 million, for use on Rock Island lines that C&NW began operating April 1.

- *CN Rail.*—Will spend $8 million to build a new car repair shop and upgrade the locomotive facility at its Neebing Yard, Thunder Bay, Ont. Work is to begin this spring and is scheduled for completion by the end of 1981.

- *Federal Railroad Administration.*Ordered a Honeywell Level 66 large-scale general purpose computer system valued at $1.1 million for use in train-efficiency studies.

- *National Railways of Mexico.*—Plans to acquire 60 to 100 locomotives or locomotive components sets a year over the next 10 years from General Electric. The completed locomotives will be built at Erie, Pa. The component sets will be assembled, painted and tested at the railroad's shops at Aguascalientes (see story, p. 11).

- *New York Metropolitan Transportation Authority.*—Will electrify the Upper Harlem Line between North White Plains, N.Y., and Brewster, 28 miles, at a cost of approximately $50 million. Major expenditures will include $24 million for nine electrical substations, $19 million for installation of third rail, and $6 million for signals and communication equipment. The project will be financed with $20 million in transportation bond issue funds and $30 million in federal funds.



RAIL FREIGHT TRAFFIC TRENDS

BILLION TON MILES (Estimated)

Source: Association of American Railroads

Week ended March 22

19.1 BILLION

How CN and GTW are making piggyback profitable

April 28, 1980

RAILWAY AGE

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MR RICHARD T EWING
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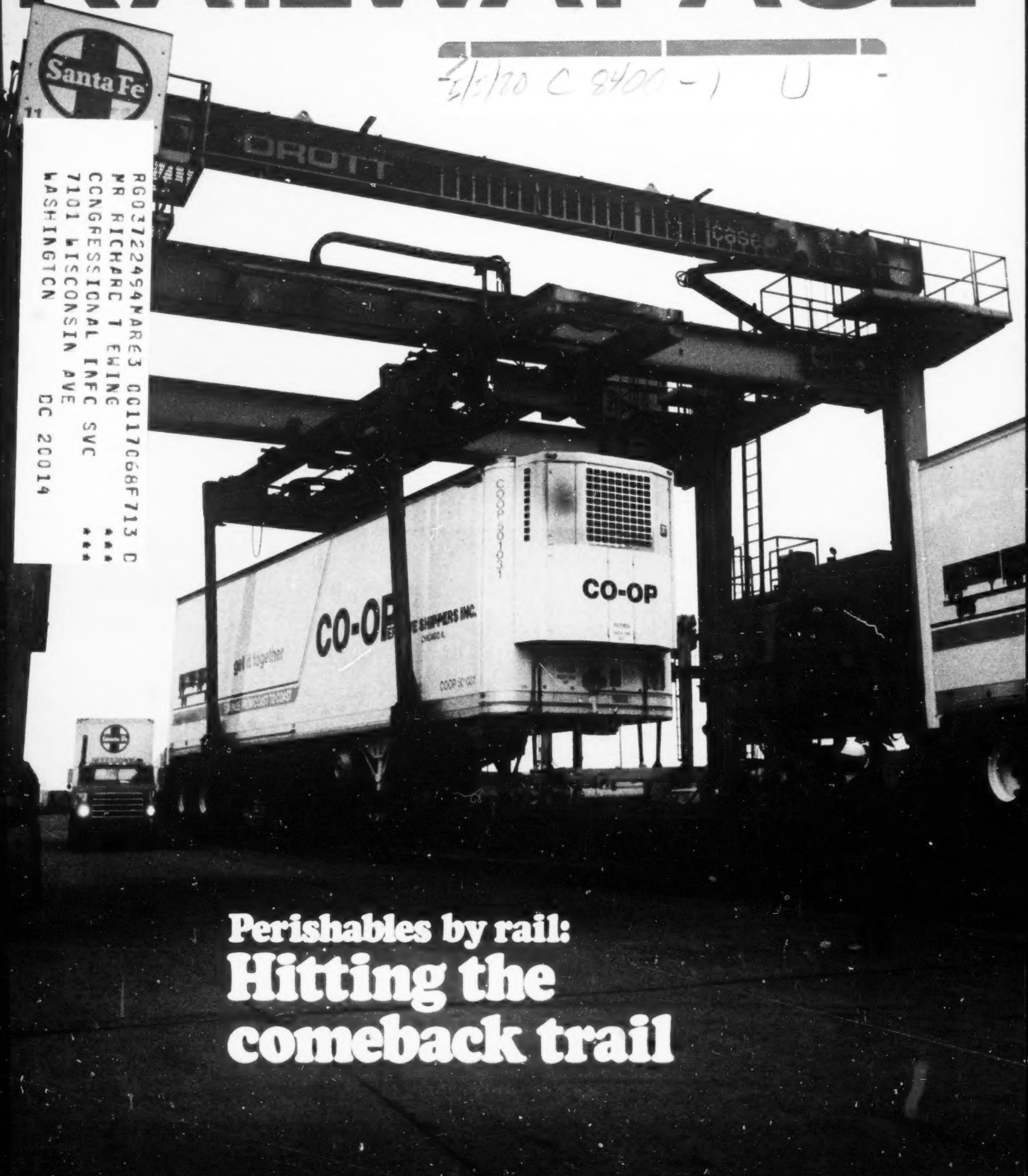
Santa Fe
DROTT
CASE
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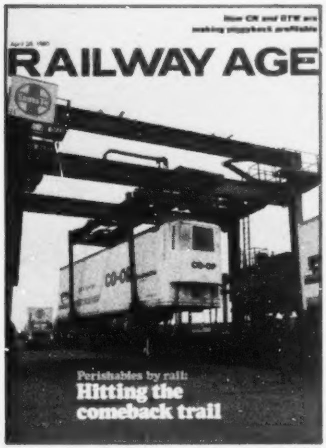
get it together

Perishables by rail: Hitting the comeback trail

RAILWAY AGE

April 28, 1980

FEATURES


RAILWAY AGE

Perishables by rail:
Hitting the comeback trail

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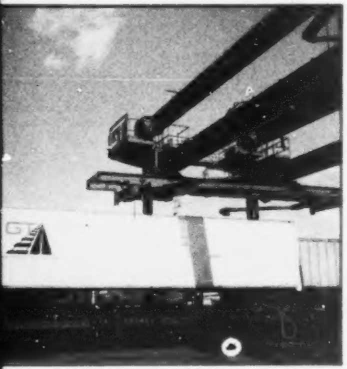
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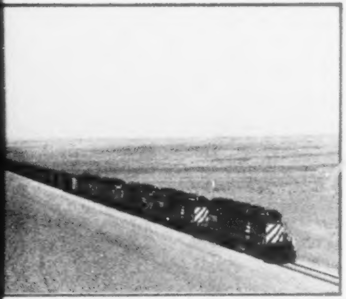
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COMMODITIES BY RAIL

Perishables

22 Hitting the comeback trail
One year after the ICC deregulated the haulage of most fresh fruits and vegetables, railroads are beginning to win back some of the traffic lost to trucks. Santa Fe has been particularly successful, using temperature-control piggyback units that are customer-owned and custom-designed for the service.

32 Intermodal: How CN moves ahead by reining in
"Selectivity" is the key word in the railroad's approach. CN tries to put its trailers and containers where the profits (and the back-hauls) are. CN also wants to be sure any new business comes from trucks—not its own boxcars.

34 GTW wrings profits from a "too short" corridor
An investment of $7.6 million in TOFC/COFC facilities has helped produce solidly profitable traffic between Chicago and Detroit, although the line-haul is considerably less than 500 miles. Loadings grew 465% in five years.

40 The coal dilemma: Railroad needs vs user demands
ICC Chairman Darius W. Gaskins, Jr., has a sympathetic ear for coal consumers who are complaining about freight rates—but, he warns, "neither coal nor any other traffic" can long move over railroads deprived of the revenues they need to survive.

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COVER: Trailers specially insulated for carrying produce are unloaded from a Santa Fe piggyback train at Corwith yard, Chicago. Photo by Santa Fe's Chief Photographer Orville Brent, Jr.

Market

CARLOADINGS

Loadings of revenue freight in the week ended Apr. 5 totaled 418,646 cars, according to the Association of American Railroads. This was a decrease of 47,410 cars, or 10.2%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Apr. 5 are estimated at 16.5 billion, a decrease of 4.9% below the corresponding week of 1979. The 1980 week included the Good Friday holiday which fell later in 1979.

REVENUE FREIGHT CARLOADINGS

Commodity	**Apr. 5 week**	**Mar. 29 week**
Grain	26,169	27,691
Farm products	3,101	3,554
Metallic ores	25,112	27,380
Coal	104,264	112,920
Crushed stone, gravel & sand	12,904	13,410
Nonmetallic minerals	13,497	14,600
Grain mill products	15,008	17,364
Food and kindred products	16,846	19,613
Primary forest products	18,051	19,293
Lumber & wood products (except furniture)	8,465	9,628
Pulp, paper & allied products	20,753	22,914
Chemicals & allied products	27,538	30,341
Petroleum products	5,702	5,953
Stone, clay & glass products	15,093	15,931
Coke	5,993	6,758
Metals & products	18,463	20,083
Motor vehicles & equipment	15,997	19,743
Waste & scrap materials	12,502	14,212
Forwarder & shipping assn. traffic	11,362	12,821
All other carloads	41,629	46,284
LCL traffic	197	222
Total cars loaded	**418,646**	**460,715**
Cumulative total	**1980**	**1979**
14 weeks	**6,158,440**	**5,986,635**
Estimated revenue ton-miles (billions) 14 weeks	**16.5**	**17.3**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Mar. 29 totaled 35,505 cars (10.5% below the corresponding 1979 week) and 64,939 trailers or containers (down 9.1% from 1979). Cumulative volume for the first 13 weeks of 1980 is 438,529 (down 2.0% from 1979) and 795,170 trailers or containers, virtually the same as 1979.

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended Mar. 21 totaled 4.8 million tons (down 1.2% from 1979). Cars loaded totaled 73,017 (down 0.8% from 1979). Cumulative loadings for 1980 were up to 53.5 million tons (up 7.1% from 1979).

- *Argentine Railways.*—Is seeking international bids on the supply of freight car trucks, boxcar bodies, rails, elastic fasteners, and miscellaneous machinery valued at $126 million. These purchases, which are being made abroad in accordance with World Bank loan conditions, are part of a $2.5-billion railway modernization program that Argentina expects to complete within the next three years.

- *Metro-Dade County (Florida).*—Awarded a $27.8-million contract to WABCO's Union Switch & Signal Division for the design, manufacture, and installation of signaling equipment on a 20.5-mile rapid transit line now under construction.

- *PLM, Inc.*—Has acquired U.S. Railcar Cleaning, Inc., of Sioux City, Iowa, which now becomes PLM Railcar Cleaning Co. with Richard P. Loevinger remaining as president. PLM's new subsidiary is equipped to clean 1,600 tank cars and covered hoppers a year.

- *Freight cars and locomotives.*—The following report has been received from the AAR and the ARCI:

DELIVERED

	February		**January**	**Two months**	
	1980	**1979**	**1980**	**1980**	**1979**
Built new by carbuilders	7,440	6,619	7,365	14,805	12,286
Built new in RR shops	560	411	470	1,030	792
Built new—total	8,000	7,030	7,835	15,835	13,078
Rebuilt	0	5	65	65	7
TOTAL DELIVERED	**8,000**	**7,035**	**7,900**	**15,900**	**13,085**
Locomotives (new and rebuilt)	124	125	169	293	259

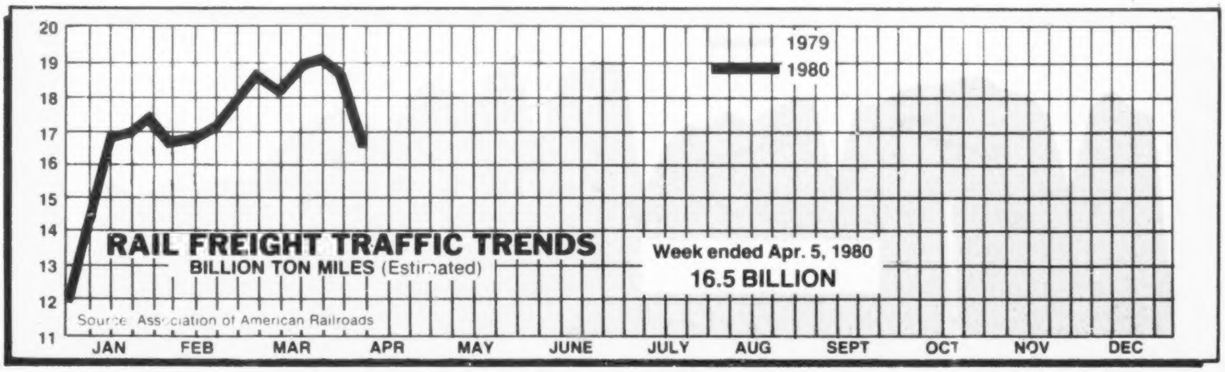
ORDERED

	February		**January**	**Two months**	
	1980	**1979**	**1980**	**1980**	**1979**
To be built new by carbuilders	3,776	14,506	6,310	10,086	29,242
To be built new in RR shops	0	0	700	700	500
To be built new—total	3,776	14,506	7,010	10,786	29,742
To be rebuilt	0	0*	65	65	0
TOTAL ORDERED	**3,776**	**14,506**	**7,075**	**10,851**	**29,742**

ON ORDER AND UNDELIVERED

	March 1		**Feb. 1**	**Average Backlog**	
	1980	**1979**	**1980**	**1980**	**1979**
To be built new by carbuilders	104,045	107,030	109,776	106,911	102,709
To be built new in RR shops	6,122	6,019	6,682	6,402	6,225
To be built new—total	110,167	113,049	116,458	113,31	108,934
To be rebuilt	170	80	170	170	82
TOTAL ON ORDER	**110,337***	**113,129**	**116,628**	**113,483**	**109,016**
Locomotives (new and rebuilt)	1,291	1,297	1,287	1,289	1,301

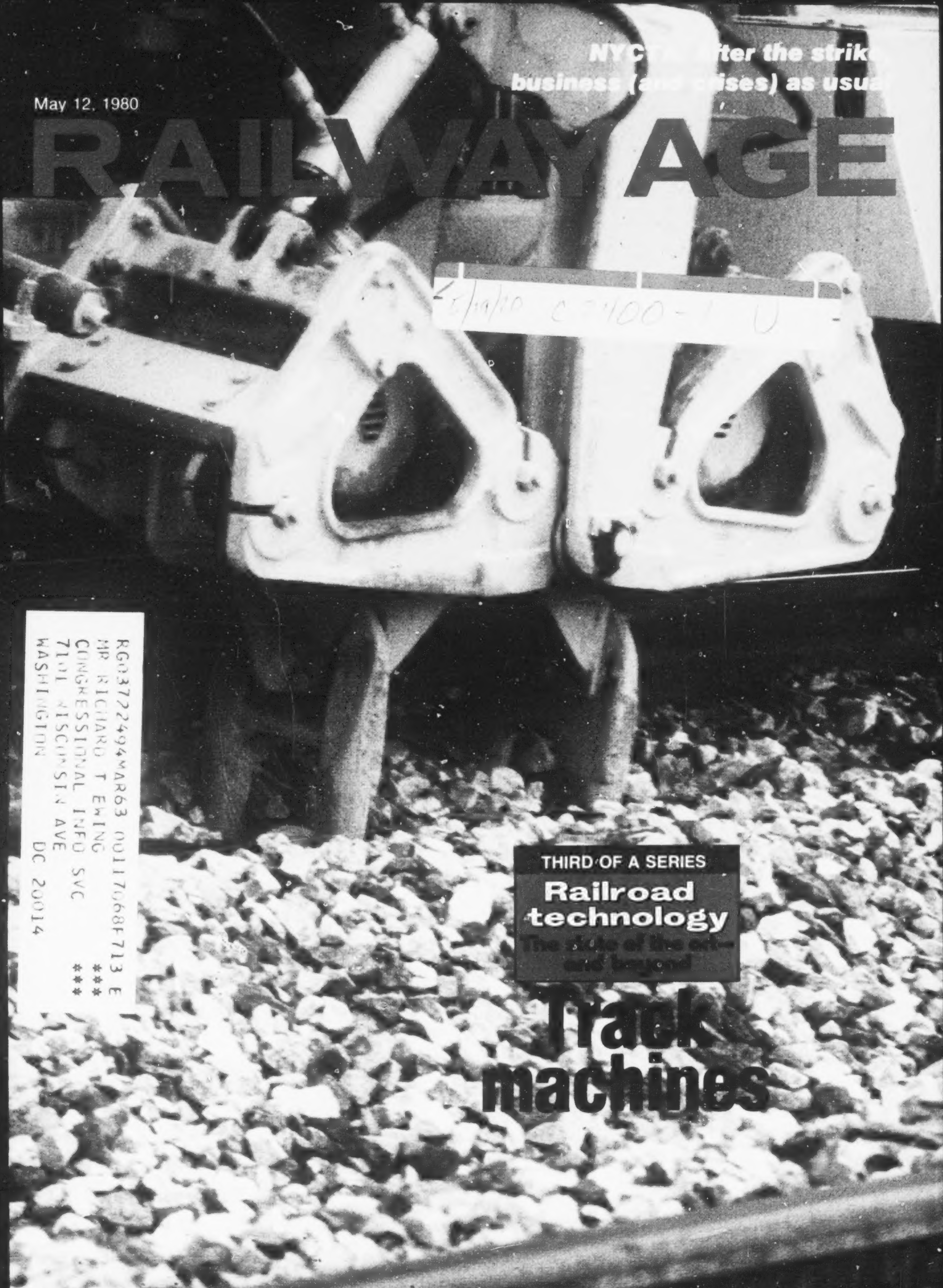
*Due to revisions and cancellations, the backlog has been reduced by 2,067 cars. Cumulative figures for orders have also been adjusted.



May 12, 1980

RAILWAY AGE

NYCTA after the strike: business (and crises) as usual



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Track machines

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RAILWAY AGE

May 12, 1980

RAILWAY AGE
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Track machines

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Railroad technology Track machines

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As L&N President Richard Spence puts it, the question management is asking is: "How can we more intensely mechanize to get in and get out and let the operating department have the railroad back?" The search for answers is a continuing one.

34 **VIA Rail gets its act together**
Two years after VIA completed the takeover of Canada's intercity passenger trains, ridership is up 34% and, says President J. Frank Roberts, VIA would be showing a profit if it enjoyed the fixed-facility benefits accorded the airlines.

37 **New York's subways: Business (and crises) as usual**
There's a mixture of news both good and bad for New York City's train riders. New equipment is on the way; so is a fare increase. An $18-billion improvement program has been drawn up, but right now it's only a "wish list."

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COVER: A ballast tamper at work on the Burlington Northern.

Market

CARLOADINGS

Loadings of revenue freight in the week ended Apr. 19 totaled 450,304 cars, according to the Association of American Railroads. This was a decrease of 33,715 cars, or 7.0%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Apr. 19 are estimated at 17.7 billion, a decrease of 1.4% below the corresponding week of 1979.

REVENUE FREIGHT CARLOADINGS

Commodity	Apr. 19 week	Apr. 12 week
Grain	29 129	28 371
Farm products	3 501	3 429
Metallic ores	31 471	29 980
Coal	115 916	117 864
Crushed stone, gravel & sand	13 527	13 846
Nonmetallic minerals	15 097	14 889
Grain mill products	16 786	16 030
Food and kindred products	17 618	17 286
Primary forest products	18 493	18 360
Lumber & wood products (except furniture)	7 930	7 851
Pulp, paper & allied products	20 413	20 423
Chemicals & allied products	27 599	28 390
Petroleum products	5 776	6 259
Stone, clay & glass products	15 892	15 611
Coke	6 347	6 971
Metals & products	18 454	18 043
Motor vehicles & equipment	17 834	16 274
Waste & scrap materials	14 322	13 251
Forwarder & shipping assn. traffic	10 936	10 622
All other carloads	43 076	41 119
LCL traffic	187	190
Total cars loaded	**450,304**	**445,059**
Cumulative total,	**1980**	**1979**
16 weeks	**7,054,314**	**6,933,557**
Estimated revenue ton-miles		
(billions) 16 weeks	**17.7**	**18.0**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Apr. 12 totaled 30,982 cars (15.0% below the corresponding 1979 week) and 57,266 trailers or containers (down 10.4% from 1979). Cumulative volume for the first 15 weeks of 1980 is 502,473 (down 3.5% from 1979) and 911,674 trailers or containers (down 1.3% form 1979).

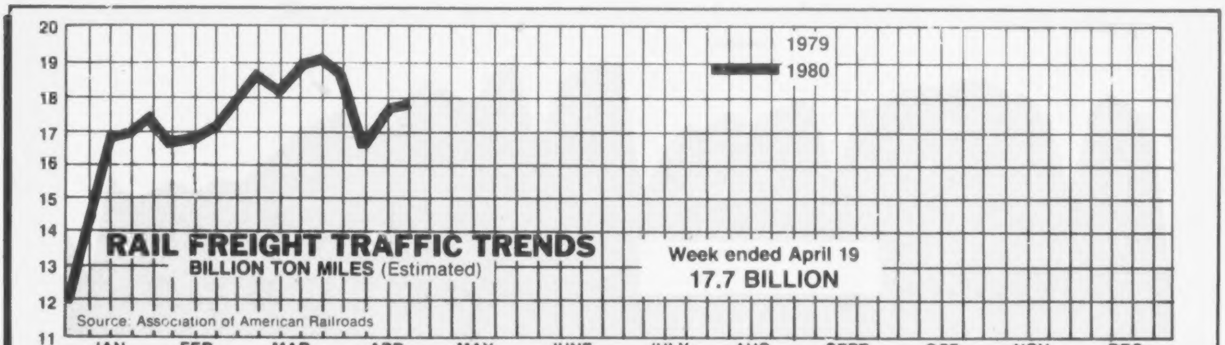
- *Connecticut Department of Transportation.*—The first of 13 SPV-2000 self-propelled cars ordered by ConnDOT from the Budd Co. has gone into service on the Norwalk-Danbury branch of Conrail's New Haven Division. The cars were purchased at a cost of $1 million each. The other 12 are to go into service on Amtrak's New Haven-Hartford-Springfield line in mid-May. Although the purchase of commuter cars by states has become commonplace, Connecticut is the first state to purchase cars for use by Amtrak on state rail lines.

- *Greenville Steel Car.*—Has increased its total freight car production capacity by 10% by expanding its West Shop facilities. A company spokesman said the 11,000-square-foot addition that has been made to the West Shop erection line, one of three operated by the company, will result in improved productivity and greater flexibility in the types of cars that can be assembled. The expansion was made necessary, the spokesman said, by increased demand for freight cars generally and the long-term demand for open-top coal cars in particular. Greenville Steel Car is a subsidiary of Ampco-Pittsburgh Corp, whose other operations include Ampco-Metal, Wyckoff Steel, and Pittsburgh Forgings.

- *Massachusetts Bay Transportation Authority.*—Will spend $7 million for track and signal rehabilitation on its 26-mile South Acton line. Track work will include installation of 26 miles of cwr and 20,000 new ties.

- *New Jersey Department of Transportation.*—Has received two bids for the supply of 57 new push-pull passenger cars. The lower bid, $38 million, is from the Budd Co. and proposes some exceptions to NJDOT's specifications. A $43-million bid without exceptions came from Bombardier of Canada.

- *Regional Transportation Authority (Chicago).*—Accepted delivery of 55 new bilevel cars built by the Budd Co. at a cost of $627,146 for each cab car and $544,396 for each trailer car. The new equipment was scheduled to go into service May 12 on the following lines: Chicago & North Western, five cab cars and 13 trailers; Illinois Central Gulf, one cab car and three trailers; Milwaukee Road, three cab cars and seven trailers; Rock Island District, C&NW, three cab cars and eight trailers; Burlington Northern, two cab cars and seven trailers. RTA Chairman Lewis W. Hill said the cars were assigned on the basis of a ridership count taken last December on all RTA-funded commuter roads. As part of its rail-improvement program, RTA is also equipping 12 E-8 2,400-hp C&NW locomotives with dual head-end power packages for more reliable heating and cooling.



Southern: Analysis in color yields rate structure insights

May 26, 1980

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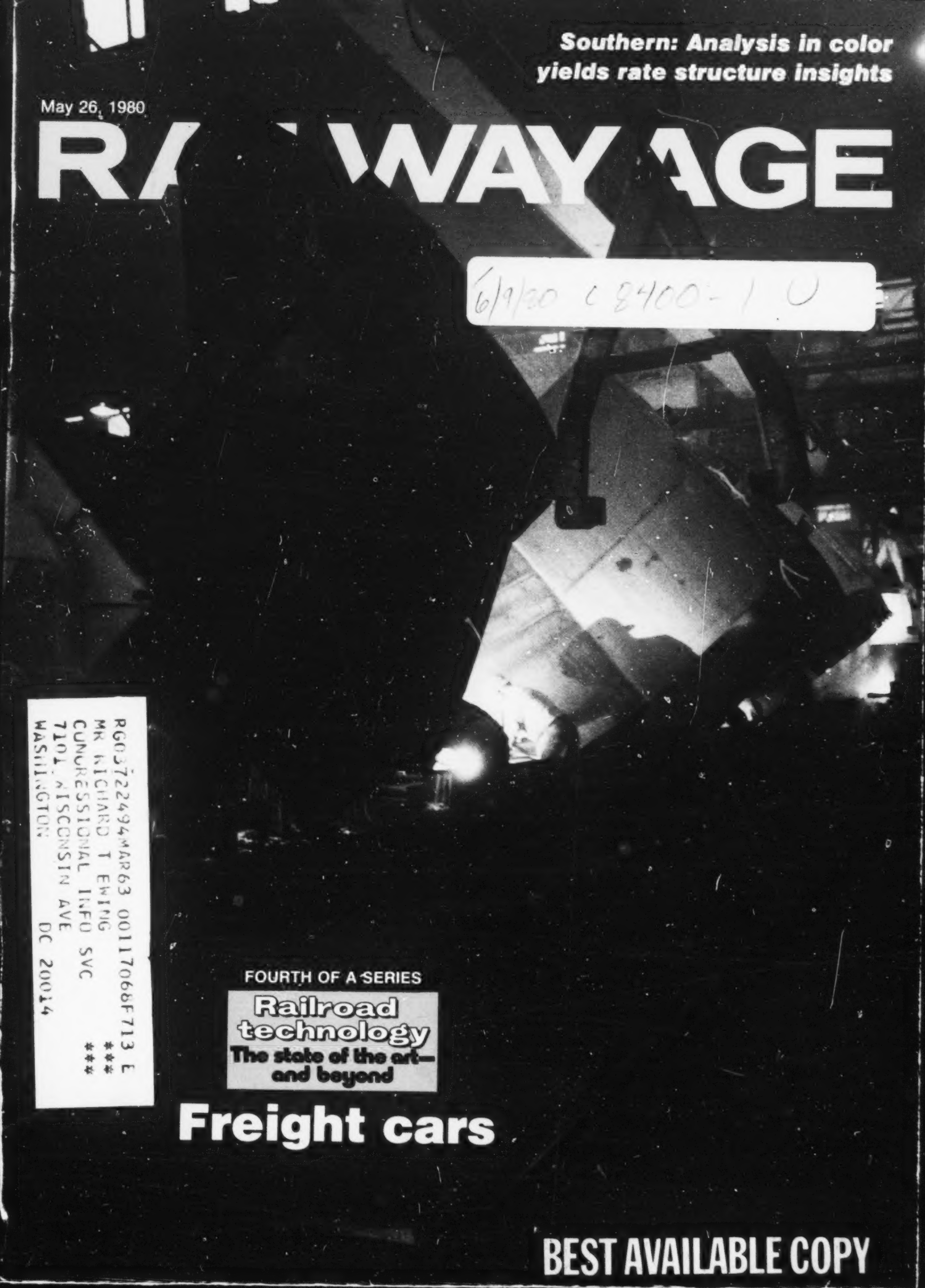

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Inside

LUTHER S. MILLER

AND NOW, SANTA FE-SP

Forbidden by law to seek partners among the other transportation modes, the railroads have gone in heavily for intermarriage—a practice that has produced its share of idiot offspring but has also produced such healthy and clear-thinking giants as Burlington Northern. In the "healthy giant" category, we'd say, are the rail carriers that will be produced by three huge mergers now at various mileposts along the road to consummation—Chessie-Seaboard, Missouri Pacific-Union Pacific, and Santa Fe-Southern Pacific.

Now that the federal government has decided that (1) we have too many railroads and (2) it's time the government diverted some of its attention from the sick railroads to the healthy railroads, with the idea of keeping them that way, neither the Chessie-Seaboard nor the UP-MP proposals would seem likely to face a lot of difficulty in Washington. It is to be expected, however, that the Santa Fe-SP plan will produce some weeping fits among those shippers who want strong competition at any price, as long as they do not have to pay for it themselves; it has already set nerves on edge at the Justice Department and at the ICC.

The latest pair to start along the merger road are, of course, ATSF and SP. A few months ago we described as "stunning" the news that UP proposed to absorb the MoPac. No less strong a word can be used to describe the impact that the ATSF-SP announcement had on the financial community May 15. For 24 hours prior to the announcement, after it had become known that SP was talking merger with "another transportation company," there was a furious guessing game. It ended when Santa Fe rang up reporters on the night of May 14 to announce a news conference for the following morning at 10:30—the very hour SP was to begin its annual shareholder meeting in New York. Our story appears on p. 13.

IT ALL BEGAN IN 1838

Railroads have been merging almost since railroading began—a good thing, because if there had never been a railroad merger, we would today have 6,000 railroads instead of 300. The first railroad merger, according to the AAR, was the coming together in 1838 of the Wilmington & Susquehanna and the Baltimore & Fort Deposit to form the Philadelphia, Wilmington & Baltimore.

While it's the big ones—the Penn Centrals, the BNs, the Seaboard Coast Lines—that stick in the mind, there have actually been 70 different railroad merger proceedings before the ICC in the last 25 years, according to the AAR. Who's next? After this year's surprises, who would dare guess?

TOMORROW'S FREIGHT CAR: THE SAME, EXCEPT. . .

The freight car is not the most glamorous vehicle that mankind has ever devised, nor the fastest, but for a century and a half it has been civilization's workhorse—and, as our romance with the internal combustion engine continues to cool, it's beginning to look as if the freight car might be around for another 150 years.

We have no idea what the freight car will look like or be like then—but in this issue we do take a cautious look 10 years down the road. In our cover story (p. 29), the fourth in our technology series, Senior Editor Gus Welty suggests that there will be more changes than will meet the eye: "The railcars of tomorrow will look much like the railcars of today, but with significant improvements in the ways in which their components go together and work together."

Market

CARLOADINGS

Loadings of revenue freight in the week ended May 3 totaled 457,944 cars, according to the Association of American Railroads. This was a decrease of 35,658 cars, or 7.2%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended May 3 are estimated at 18.0 billion, a decrease of 1.3% below the corresponding week of 1979.

REVENUE FREIGHT CARLOADINGS

Commodity	May 3 week	Apr. 26 week
Grain	23,896	25,183
Farm products	4,597	3,934
Metallic ores	35,410	33,617
Coal	115,208	117,427
Crushed stone, gravel & sand	15,709	14,805
Nonmetallic minerals	16,732	15,632
Grain mill products	16,469	16,257
Food and kindred products	17,547	17,230
Primary forest products	19,884	19,000
Lumber & wood products (except furniture)	8,642	8,245
Pulp, paper & allied products	21,898	20,778
Chemicals & allied products	30,152	29,778
Petroleum products	5,577	5,703
Stone, clay & glass products	15,716	15,971
Coke	5,499	6,269
Metals & products	18,629	18,381
Motor vehicles & equipment	17,071	18,206
Waste & scrap materials	14,528	14,110
Forwarder & shipping assn. traffic	11,279	11,167
All other carloads	43,302	42,784
LCL traffic	199	211
Total cars loaded	**457,944**	**454,688**
Cumulative total	**1980**	**1979**
18 weeks	7,966,911	7,926,773
Estimated revenue ton-miles (billions) 18 weeks	315.9	296.7

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Apr. 26 totaled 32,286 cars (19.2% below the corresponding 1979 week) and 59,281 trailers or containers (down 17.0% from 1979). Cumulative volume for the first 17 weeks of 1980 is 567,420 cars (down 5.2% from 1979) and 1,030,323 trailers or containers (down 3.0% from 1979).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended Apr. 14 totaled 4.97 million tons (up 20.6% from 1979). Cars loaded totaled 72,971 (up 13.7% from 1979). Cumulative loadings for 1980 were up to 70.5 million tons (up 7.5% from 1979).

- *Port Authority of Allegheny County (Pa.).*—Authorized award of contracts to General Electric Co., subject to UMTA concurrence, for rehabilitation of 10 passenger coaches ($4,065,393) and purchase of two remanufactured locomotives ($1,297,872).
- *Rex Leasing, Inc.*—Has announced, along with Merrill Lynch, Pierce, Fenner & Smith, that the Rex Leasing Covered Hopper Railcar Management Program 1980 is now offering 1,100 new covered hopper cars, valued at approximately $58 million, to qualified investors, who will be given the opportunity to enter into management agreements with the leasing company, which is a wholly owned subsidiary of Rex-Noreco, Inc. Minimum purchase is one car. The offering and the opportunity to enter into management agreements is being made only by means of a prospectus, copies of which are available from any Merrill Lynch office.
- *Union Pacific.*—Ordered 100 61-foot, 100-ton-capacity bulkhead flatcars from Portec for delivery beginning this month. The cars are being built at Portec's Georgia Railcar Operations plant in Winder, Ga.
- *Freight cars and locomotives.*—The following report has been received from the AAR and the ARCI:

DELIVERED

	March		February	Three Months	
	1980	1979	1980	1980	1979
Built new by carbuilders	8,224	7,787	7,440	22,870	20,072
Built new in RR shops	571	509	463*	1,462	1,301
Built new—total	8,795	8,296	7,903*	24,332	21,373
Rebuilt	222	110	97*	426	117
TOTAL DELIVERED	**9,017**	**8,406**	**8,000**	**24,758**	**21,490**
Locomotives	246	148	124	539	407

ORDERED

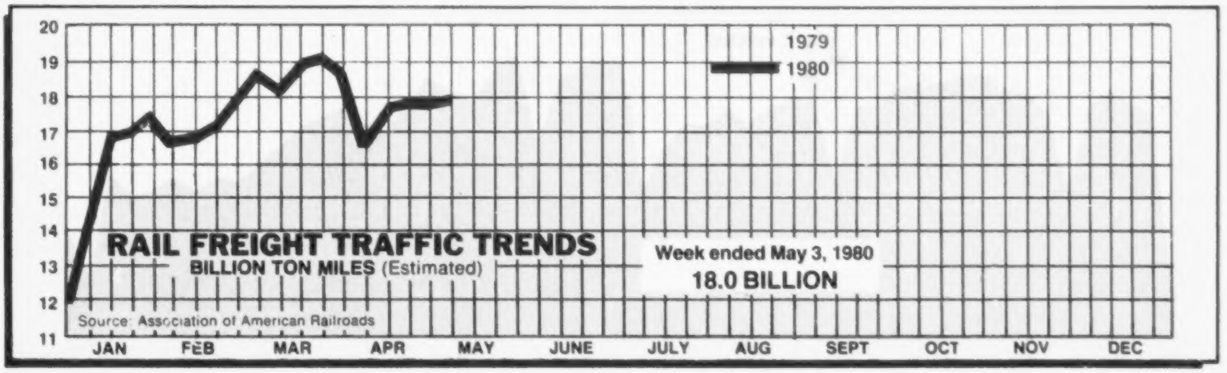
	March		February	Three Months	
	1980	1979	1980	1980	1979
To be built new by carbuilders	3,471	14,801	3,776	13,357	43,851
To be built new in RR shops	0	0	0	0	500
To be built new—total	3,471	14,801	3,776	13,357	44,351
To be rebuilt	68	98	0	833	98
TOTAL ORDERED	**3,539**	**14,899**	**3,776**	**14,190**	**44,449**

ON ORDER AND UNDELIVERED

	April 1		March 1	Average Backlog	
	1980	1979	1980	1980	1979
To be built new by carbuilders	96,165	113,802	104,045	103,328	104,149
To be built new in RR shops	4,790	5,510	5,361*	5,325	6,156
To be built new—total	100,955	119,312	109,406*	108,653	110,305
To be rebuilt	577	68	731*	712	115
TOTAL ON ORDER	**101,532****	**119,380**	**110,137**	**109,365**	**110,420**
Locomotives	1,114	1,143	1,291	1,230	1,249

* Revised figures

** Due to revisions and cancellations of some orders, the backlog has been reduced by 3,127 cars. Cumulative figures for car orders have also been adjusted.



Locomotive rebuilding: Hornell gets humming

June 9, 1980

RAILWAY AGE

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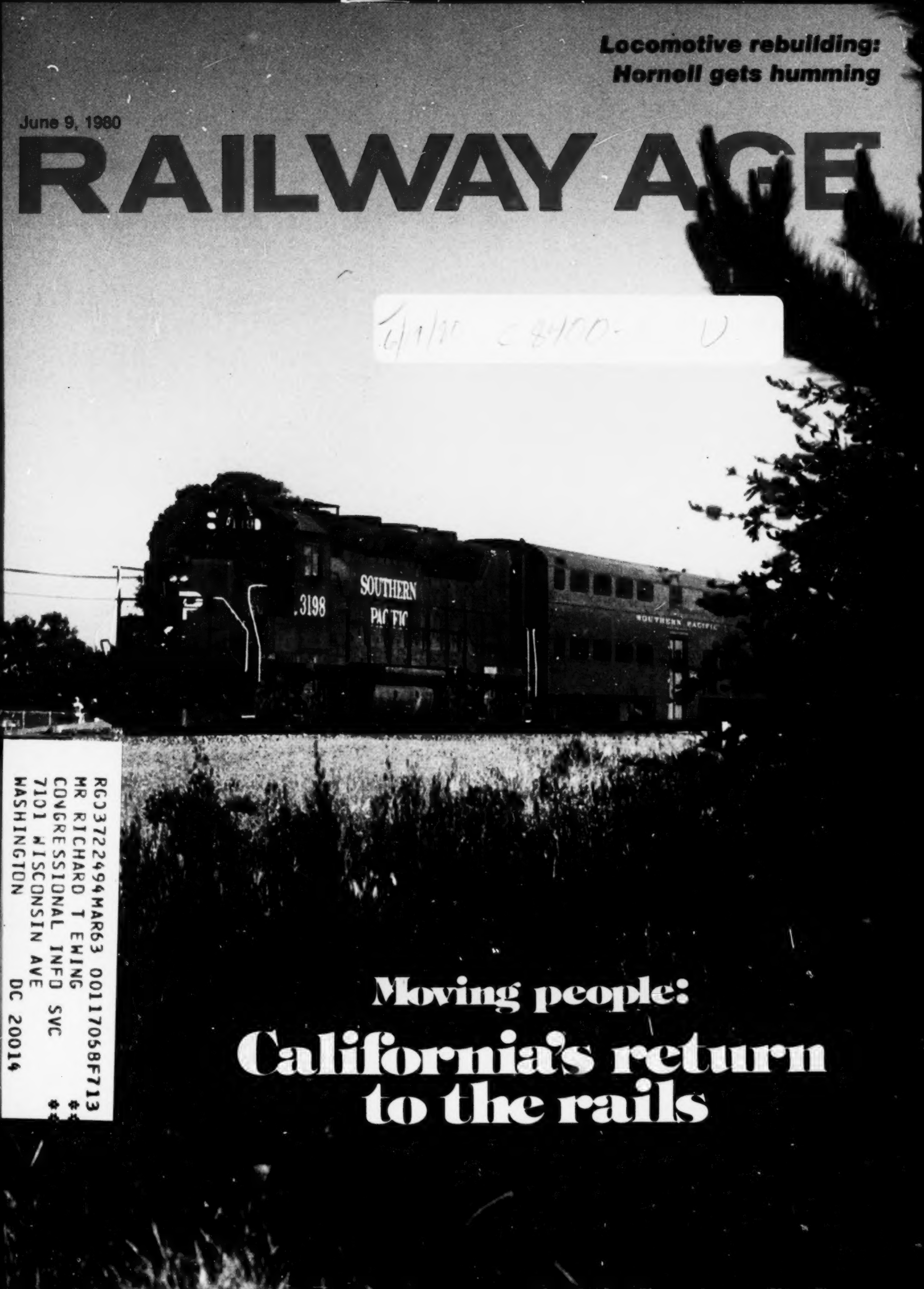
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Moving people: California's return to the rails

RAILWAY AGE

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Inside

LUTHER S. MILLER

THE CALIFORNIA STORY

Passenger-train partisans in the West have long felt that the East has a stranglehold on Washington's pursestrings. Western tempers flared anew when Congress—at the urging of the Federal Railroad Administration—recently added $750 million to the $1.75 billion already voted for Northeast Corridor improvements. A letter from Robert W. Rynerson, a former Oregon DOT official who now works as a planner in Edmonton, Alta., pretty well sums up western feelings on this touchy subject. "If the FRA had been put in charge of running the Revolutionary War by the Continental Congress," writes Mr. Rynerson, "their first act would have been to propose surrendering everything but the Northeast Corridor to the British. An army of consultants would have been employed to prove that there was no benefit in retaining the other colonies. School children would marvel at the picture of brave researchers warming themselves around computer terminals at Valley Forge, stuffing old printouts into their shoes to stop frostbite, barely able to squeeze out the numbers on their wornout pocket calculators."

In a recent interview with *Railway Age*, California's Adriana Gianturco didn't put it quite that strongly, but the head of Caltrans—the agency that is responsible for all forms of transportation in the state—did express disappointment that Congress in its emerging-corridors legislation failed to include any money for the Los Angeles-San Diego corridor. "Our tax dollars are going to the Northeast and that irritates us," said Gianturco. "I think another $750 million to the Northeast Corridor is outrageous."

But even without the all-out support that the Northeast Corridor is getting from Washington, the Los Angeles-San Diego corridor is fast on its way to becoming an all-out success, writes Contributing Editor William D. Middleton in one of several stories in this issue (p. 28) about the rebirth of rail passenger service in our most populous state. There are now six daily round trips between these cities; ridership last year was up 43% over the year before; this year it's running 30% above last year.

CALTRANS TO THE RAILROADS: "WORK WITH US"

California thinks big, and so does Caltrans. The agency now has a plan that would extend passenger train service miles by more than 40% in a giant-sized "California Corridor" that would include a Sacramento-Bay Area northern segment linked by coastal and San Joaquin Valley routes to the Los Angeles-San Diego southern segment. To accomplish this will require not only more help from Washington but more cooperation from the railroads. Gianturco's message to railroads is: "Work with us. We've got common interests."

There's more to the California story than intercity trains. There's the new agreement between Southern Pacific and Caltrans for improved San Francisco Peninsula commuter service, a program that will cost $100 million over the next five years (p. 32). There's the miniboom in light rail—San Diego is building an LRT system (p. 34) and San Jose is in the advanced planning stages (p. 40).

As we have earlier reported, there's activity, too, on the heavy rail transit front. Los Angeles is well along on the road toward construction of an 18-mile $2-billion "starter" line (*RA*, Oct. 8, 1979, p. 48). BART, meanwhile, is beginning to look more like a success story than it has in the past; with ridership rising. BART is in the market for 90 to 150 new cars (*RA*, May 12, p. 14).

Things certainly are changing in the state that made the freeways famous.

BEST AVAILABLE COPY

Market

CARLOADINGS

Loadings of revenue freight in the week ended May 17 totaled 440,945 cars, according to the Association of American Railroads. This was a decrease of 53,635 cars, or 10.8%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended May 17 are estimated at 17.7 billion, a decrease of 6.1% below the corresponding week of 1979.

REVENUE FREIGHT CARLOADINGS

Commodity	May 17 week	May 10 week
Grain	24,963	25,562
Farm products	4,961	4,772
Metallic ores	35,914	34,665
Coal	116,260	116,151
Crushed stone, gravel & sand	15,247	15,666
Nonmetalic minerals	12,991	15,821
Grain mill products	16,372	15,703
Food and kindred products	18,018	17,481
Primary forest products	19,805	20,308
Lumber & wood products (except furniture)	8,474	7,934
Pulp, paper & allied products	20,921	20,276
Chemicals & allied products	25,363	26,961
Petroleum products	5,577	5,636
Stone, clay & glass products	15,471	16,130
Coke	5,664	5,049
Metals & products	16,420	15,955
Motor vehicles & equipment	14,706	15,944
Waste & scrap materials	12,391	12,429
Forwarder & shipping assn. traffic	10,259	10,427
All other carloads	40,994	40,708
LCL traffic	174	171
Total cars loaded	**440,945**	**443,749**
	1980	1979
Cumulative total 20 weeks	**8,851,605**	**8,906,645**
Estimated revenue ton-miles (billions) 20 weeks	**351.5**	**333.6**

P.GGYBACK LOADINGS

U.S. piggyback loadings for the week ended May 10 totaled 31,802 cars (16.0% below the corresponding 1979 week) and 57,932 trailers or containers (down 14.3% from 1979). Cumulative volume for the first 19 weeks of 1980 is 632,111 (down 6.4% from 1979) and 1,148,188 trailers or containers (down 4.1% from 1979).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended May 7 totaled 5.7 million tons (up 7% from 1979). Cars loaded totaled 79,171 (up slightly from 1979). Cumulative loadings for 1980 were up to 89.1 million tons (up 8.3% from 1979).

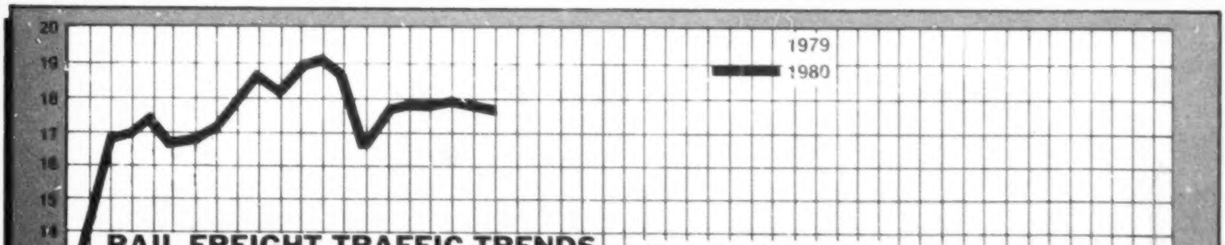
- *Louisville & Nashville.*—Will spend $185.5 million in 1980 for 2,929 new freight cars, 769 rebuilt cars, and 57 new diesel-electric units. This is an increase of $76 million over 1979 spending. The freight car program calls for acquisition of 1,650 100-ton open tops; 1,000 100-ton covered hoppers; 144 trilevel autoracks; 50 70-ton pulpwood flatcars; 30 70-ton cars; and 50 cabooses. In 1979 L&N acquired 226 new cars, 887 rebuilds, and 130 locomotives. L&N's 1980 track program includes installation of 210 miles of cwr, 1.1 million new crossties, and 1.2 million tons of ballast. In 1978 the railroad installed 256 miles of cwr, 1.06 million crossties, and 1.5 million tons of ballast.

- *Niagara Mohawk Power Corp.*—Leased 98 TankTrain tank cars from General American Transportation Corp. to deliver fuel oil to its Oswego, N.Y., electric generating plant.

- *Porto Alegre (Brazil).*—Will construct a suburban rail transit system costing $312.8 million, of which $159 will be supplied by the World Bank. All items to be procured, including 25 electric trains and automatic signaling equipment, will be subject to international competitive bidding. Inquiries should be directed to Empresa de Trans Urbanos de Porto Alegre/Rua dos Voluntarios de Patria, 1358/90.000 Porto Alegre/Rio Grande do Sul - Brazil.

- *Westinghouse Air Brake Division (WABCO).*—Will supply equipment valued at more than $5 million for installation on rapid transit system cars that the Budd Co. is building for Baltimore and Dade County (Miami). Budd awarded WABCO a $4-million contract for braking and control equipment. Walton Electric Coupler Inc. awarded WABCO a $1-million contract for draft gear equipment. Budd is building 72 cars for Baltimore and 136 for Miami. Delivery of the Baltimore cars is to begin in the third quarter of 1980; the 8-mile Baltimore line is expected to start revenue service in the first quarter of 1982. Delivery of the Miami cars is scheduled for third quarter 1981; the 22.6-mile Miami system is to begin revenue service in 1984.

- *Zambia.*—Will use proceeds of a $40-million loan from the World Bank and its affiliate, the International Development Association, to help finance a $184.3-million railway improvement project. The project, which comprises the last four years (1980-1983) of the Zambia Railways Board's modernization program, calls for purchase of new locomotives and freight cars, renewal of 70 miles of track, and improvements to the ctc and telecommunications systems. Equipment financed by the World Bank/IDA loan will be procured through international competitive bidding.



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Fifth of a series

June 30,

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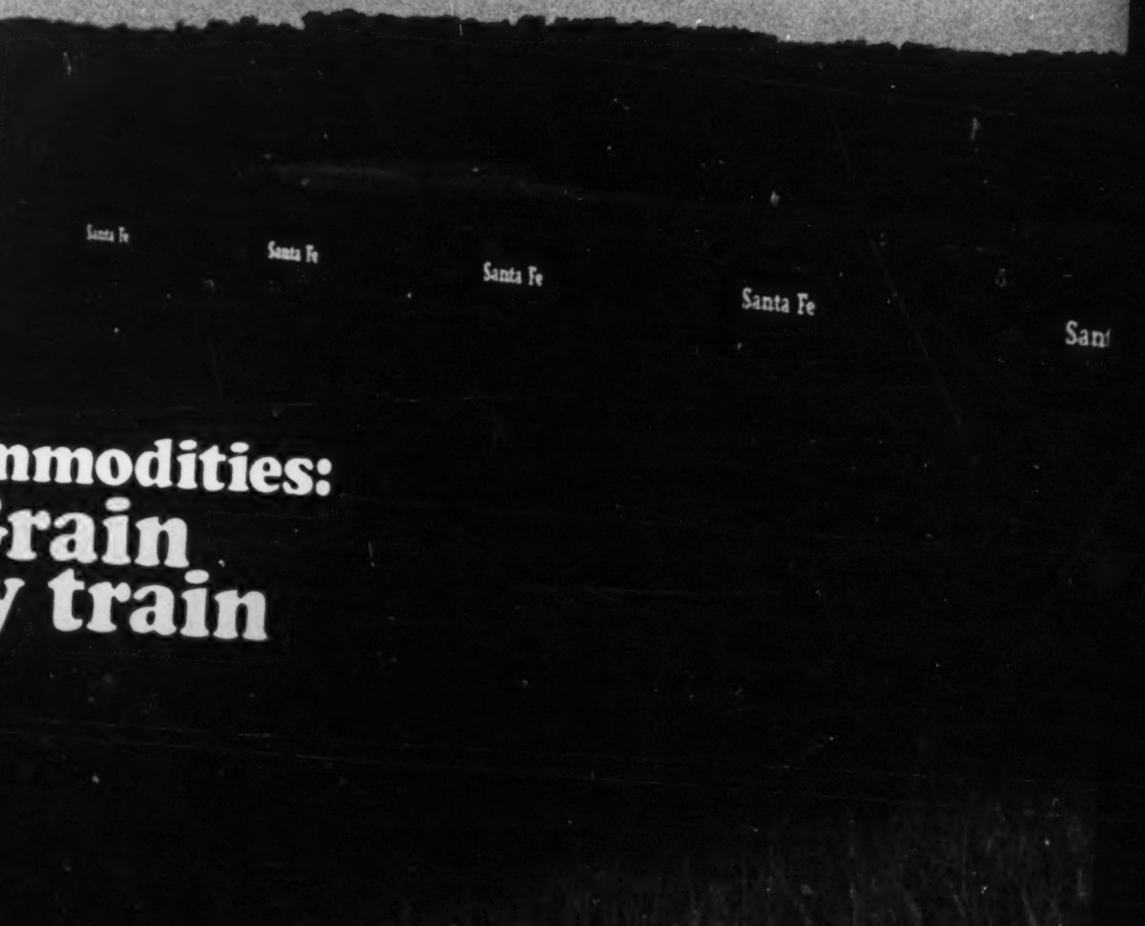
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Commodities: Grain by train

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Inside

LUTHER S. MILLER

RAILROAD BOOK OF LISTS

It's called "The Economic ABZ's of the Railroad Industry"; it was compiled by the Economics and Finance Department of the Association of American Railroads; it's available from the AAR at $25 a copy; and it's clearly destined to be a best-seller. This new publication is essentially a book of lists—around 125 pages of them—covering every aspect of railroading. It is presented, as a brief preface points out, "in a simple statistical format intended for use as an educational tool—both as a primer for those seeking the basic economic tenets of railroading and as a reference source to those able to employ such data in their endeavors." Ounce for ounce (and this one weighs in at 1 lb, 7½) it's the single most valuable statistical reference work we have come across in 25 years of writing about railroads.

A completely new edition of "The Economic ABZ's" will be published every five years. An annual supplement will be available in off-years, for $5; each of these supplements will provide raw statistical data for the prior year.

Inquiries should be addressed to the Economics and Finance Department, Association of American Railroads, 1920 L Street, N.W., Washington, D.C. 20036.

At a time when most of the big roads are involved in merger proceedings, one of the lists is particularly interesting—that which shows the 20 biggest carriers ranked by freight revenues. To this list we have added net income. (An addition that makes the interesting point, for example, that Southern and Norfolk & Western, while they ranked only sixth and seventh in revenues last year, looked rather more impressive on the bottom line: NW was the industry's biggest money-maker and Southern was the third biggest). Here's our revised list:

THE TOP TWENTY RAILROADS (1979)

Carrier	Freight revenue (000)	% of total	Net income* (000)
Conrail	$3,155,433	13.20	($487,631)
Burlington Northern	2,370,650	9.91	175,221
Southern Pacific	1,882,271	7.87	56,514
Santa Fe	1,828,001	7.64	128,036
Union Pacific	1,711,508	7.16	149,142
Southern	1,426,998	5.97	160,622
Norfolk & Western	1,378,116	5.76	198,596
Missouri Pacific	1,374,811	5.75	110,027
Seaboard Coast Line	1,015,652	4.25	135,466
Louisville & Nashville	945,916	3.96	28,779
Baltimore & Ohio	877,941	3.67	56,068
Illinois Central Gulf	780,804	3.26	(32,072)
Chesapeake & Ohio	768,050	3.21	118,129
Chicago & North Western	669,472	2.80	(36,744)
Frisco	424,982	1.78	19,753
Milwaukee Road	392,269	1.64	(105,178)
Rock Island	336,050	1.41	—
Soo Line	283,432	1.19	27,568
Cotton Belt	258,499	1.08	36,777
Denver & Rio Grande Western	251,484	1.05	27,670

*Source: ICC

RAILWAY AGE

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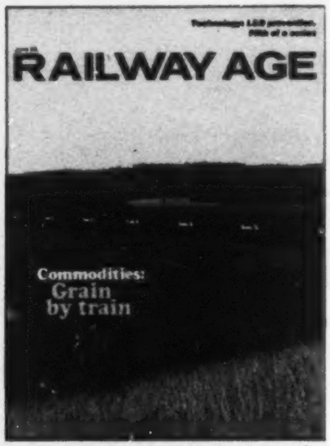

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COVER: Santa Fe grain train was photographed by J. F. Curto, manager-photographic and audio visual service, Santa Fe.

COMMODITIES BY RAIL

GRAIN

Granger roads gear up for long-term growth

By GUS WELTY, Senior Editor

The numbers are mind-boggling:

—For the first four months of 1980, local carloadings of grain on Missouri Pacific were up by 71% over loadings for the same period last year. Grain tonnage was up by 80%.

—For Burlington Northern, January-April grain shipments ran 41% higher than in the year-earlier period, up from 210 million bushels to almost 300 million bushels.

—Five-month figures for Santa Fe showed a carloadings increase of better than 47%, with a 60% jump in loadings of nontransit wheat alone.

—Grain traffic gains on Union Pacific, January through May, were paced by a 45% increase in shipments destined for the West Coast.

—For the railroad industry as a whole, loadings for the first 22 weeks of 1980 totaled 624,626 cars, up by 23% from 1979 and by more than 20% from 1978 for the same reporting period.

—In terms of carloadings, the record year was 1973, with movement of about 1,682,000 cars of grain. But for sheer volume in a 12-month period, the number to top came in the 12 months ended March 31 of this year, a period in which railroads moved an average of 92.1 million bushels per week.

With performances like these to look back upon, what do railroads do for an encore? For an encore, the railroad grain shipping system has the capability to do just about anything demanded of it: Grain-moving capability, by almost any measure, not only is there but will grow to meet anything now foreseen.

- **What's helping?** Several factors have contributed to the past year's showing and to the industry's ability to handle grain in increasing volumes:

—The first quarter of 1979 was not all that great for grain movement, in part because of weather conditions. But then volume picked up sharply. And when the winter of '79 came, it turned out to be the tamest in several years, thus smoothing out patterns and allowing rail carriers to head into the new season without having to play catch-up on an unfilled car order backlog.

—Holding for power has become less common as railroads have kept locomotive builders working at high production levels for the past couple of years. As of late spring, the motive power fleet was up by 800 or more units from the year-earlier level.

—While much of the attention in the freight car market over the past several years has been focused on the large number of boxcars joining the fleet (many of them short-line-marked cars acquired in large part to generate car-hire income for the underlying lessors), there have been steady increases in the number of covered hopper cars coming on line, especially the most-in-demand jumbo covered hoppers. As of mid-May, railroad and private ownership of the high-capacity cars was within a whisker of the 200,000-car mark, and fleet capacity was reflecting these additions: Between Jan. 1, 1978, and April 1, 1980, total capacity of the grain car fleet climbed from 678.5 billion bushels to about 763.4 million bushels, even as the fleet of aging and obsolescent (if not outright obsolete) 40-foot plain boxcars continued to shrink, from 86,460 cars at the beginning of 1978 to a few more than 53,000 cars this past spring. The trends appeared to be continuing in 1980: Through the first four months, more than 9,400 new covered hopper cars were placed in service, and new orders went onto the books for close to 5,600 cars; on both delivery and order sides, there was more activity in covered hoppers than in any other car type.

—There was a spate of new thinking from the Interstate Commerce Commission, which cut back sharply from past practices of interfering with grain movement through imposition of restrictive orders. Before spring of 1979, the commission had a habit of putting restrictions on use of jumbo covered hoppers in unit train service. ICC's intent was to make more cars available to small shippers at times when car supply was tight—but commission reasoning ignored the fact that unit train operations are far more efficient in moving grain in volume and, far from helping, the restrictions tied up more cars for more time, slowed down grain movement, and thus made car supply problems even worse. In early '79, however, the ICC lifted most of these restrictions—and that action played a major role in allowing the rail industry to set its spring-to-spring grain-hauling volume record.

(That record was all the more remarkable because it was achieved despite a number of disruptions in grain-moving patterns. There was, for instance, a grain handlers' strike at the Head-of-the-Lakes, where the ports at Duluth-Superior normally take care of 15% of the grain moving by rail to ports for export. There were the strike by the Brotherhood of Railway and Airline Clerks and the Un-

A decade of fluctuation in carloadings. . .

	Grain	Grain mill products
1970	1,468,000	933,000
1971	1,294,000	949,000
1972	1,356,000	963,000
1973	1,682,000	1,066,000
1974	1,465,000	1,023,000
1975	1,343,000	995,000
1976	1,326,000	1,010,000
1977	1,250,000	997,0900
1978	1,341,000	973,000
1979	1,428,000	917,000
1980 (22 weeks)	624,626	361,473

. . .and steady growth in the covered hopper fleet

On Jan. 1	Class I railroads	Private	Total*
1971	130,954	38,972	170,742
1972	138,099	41,045	179,919
1973	141,642	43,910	186,219
1974	150,499	53,771	204,926
1975	154,302	64,081	219,362
1976	156,850	70,029	228,265
1977	158,850	70,145	230,069
1978	161,246	73,103	235,829
1979	161,903	80,775	246,087
1980	164,959	98,643	268,919

* Includes other-than-Class I railroads

(especially in the "jumbo" fleet)

1978	94,621	54,075
1979	99,902	61,860
1980	106,249	79,703
1980 (May 15)	112,448	85,959

ited Transportation Union against Rock Island, a major grain hauler, the subsequent collapse of the Rock, and the entry of Kansas City Terminal onto RI as directed-service carrier. Last year a series of embargoes had to be issued against elevators at various ports as port elevators filled up, ships didn't arrive as expected, and there was simply no place to put inbound grain. Finally, there were basic changes shaping up in export patterns in which Pacific Coast ports assumed new importance. From 1978 to 1979, grain unloadings at Pacific ports were up by 64%, and while movements to the West Coast generated more revenues from the longer haul, they also increased turnaround times on equipment.)

● **What lies ahead?** Almost uniformly, major grain-carrying railroads are solidly optimisic for the long term—and solidly uncertain about the short term. Among the short-term questions:

—Will the weather continue to cooperate, as it has thus far in 1980? Reports from several railroad agricultural development departments seemed generally positive on crop progress through May and June, especially with respect to winter wheat, feed grains, and soybeans, and just a couple of weeks ago the U.S. Department of Agriculture boosted its forecast of winter wheat production to a record 1.76 billion bushels, up from 1.61 billion last year and well ahead of the old production record of 1.64 billion set in 1975.

—What pattern will export movements take? At the time the Administration imposed its embargo on exports to the Soviet Union, there were dire predicitons about the impact on rail grain volume, but for the most part the predictions turned out to be direr than the fact. Exports to Mexico took up some of the slack, as did exports to other overseas countries, and one recent estimate indicated that grain exports to the People's Republic of China might well top exports to the USSR in dollar volume.

—Will labor disputes create problems, as they did in 1979? Railroads, with an agreement stretching ahead to next April, are not anticipating industrywide problems, but there could be scattered flare-ups, and there is always the possibility of work stoppages at ports or elevators tying up operations.

—What relationships will develop between movements of stored grain and the new harvest? Volumes carried this year indicate that a substantial amount of grain has been moved from storage, but a sudden dumping of grain onto the market at the time the new harvest is coming in could cause problems.

In all of these questions, however, some encouragement is mixed in with all the uncertainty. Last year, railroads had to cope to some extent with every one of the conditions noted—good weather that produced a good harvest, changes in export patterns, labor disputes, and the dumping of stored grain—and railroads, though they did have problems, still were able to perform at a record-setting pace.

- **Optimism for '80.** Even though May saw some slackening in demand, which could create surge problems later as harvest neared their peaks, major grain-haulers were thinking positively.

Burlington Northern, for example, was staying current on shipper car orders, even with the sharp increase in the number of bushels handled this year (which had tapered off to a 25% gain through May). One reason: Deliveries are continuing on orders for 2,200 new high-capacity covered hopper cars, about $90-million worth of grain-carrying capacity. BN grain experts warn that, while the Russian embargo has not had major impact thus far, it does create a certain uncertainty regarding rail shipments later in the year. At the same time, BN remains hopeful that the harvest can be handled adequately when it is in full swing, and that the record volume of the first four months of 1980 will turn out to be a "favorable omen."

Calling attention to increases in terminal elevator storage capacity and substantial increases in the covered-hopper fleet, Missouri Pacific found itself "more optimistic than we have been in 10 years about our ability to meet grain harvest requirements efficiently." MoPac sees the possibility of spot shortages occurring, "and we may not keep all of the people happy all of the time, but we're confident that we will keep most of the people happy most of the time."

Like BN, MP has added jumbo covered hoppers, with 1,000 new cars coming into service this spring. And like BN, MoPac has added a new wrinkle or two to grain movement. BN began applying the unit train concept to grain-gathering and-forwarding operations experimentally late in 1978 and had about 50 trainsets of equipment in dedicated service by the end of 1979; as a result it was able to move about 19% of its total grain volume last year in grain trains that required only about 6% of its grain-carrying equipment. Missouri Pacific's approach has been to inaugurate a shuttle-train system, also promising high degrees of equipment utilization, to move grain from country elevators to storage points in Kansas City, Wichita, Hutchinson, Topeka, and Atchison, Kan.

Santa Fe is equally optimistic, one reason being its foresight in beginning the switch to covered hopper cars many years ago. Fifteen years ago, Santa Fe notes, 190,000 carload movements were needed in order to haul 10.7 million tons of grain, while only 163,000 were required last year to haul 15.6 million tons, thanks to the replacement of inefficient, low-capacity boxcars with a fleet of covered hopper cars that has now grown well beyond 14,000 units in the jumbo category alone.

Shipper ownership/lease of equipment

Two big shippers look at the granger

Railroads are confident of their ability to move the grain and optimistic about the volumes of grain they'll be called on to move. But what about the customer? What's his view on such subjects as demand and movement patterns, railroad services, rail equipment supply, and the quality of that equipment? What changes in the system would he regard as desirable in order to help both the grain trade and the rail industry?

Railway Age put the questions to two customers with long-term relationships with the railroads—Cargill and Allied Mills—and got some very specific responses.

James V. Springrose
Cargill

First, Cargill Vice President James V. Springrose observes that "over the past decade, the transportation of grain has been challenged to meet an ever-increasing world demand—and this has placed, almost without interruption, a burden on the rail industry to keep pace."

How has the industry reacted? "They have generally responded very well."

- **Traffic is more stable.** Freight car shortages, Springrose says, have been "more severe and have lasted longer than at any time in memory. But the reason has been growing demand and not more extreme cycles in the historic grain movement. In fact, in the same decade the cyclical nature of the movement has diminished, and the grain-marketing system is now far more susceptible to constant year-around volumes than ever before."

Allied Mills' Director of Transportation A. T. Walters points out that Allied buys grain and grain products throughout the year, and its movements "are on an extremely stable basis. In fact, when we commented on the peak-demand proposals before Congress and the Rural Transportation Task Force, we have highlighted the stability of the feed and poultry business. Car supply levels also indicate that the grain business has been less susceptible to the peak-and-valley gyrations found years ago when the majority of the grain was shipped in boxcars. The advent of jumbo cars and unit train service has gone a long way toward making it possible to even out the flow in these once-seasonal movements."

Cargill's Springrose puts it this way: "Over the past 20 years, grain and grain products have undergone the transition from box to covered hopper cars, and the rapidity of this transition reflects the inherent efficiencies of covered hopper cars for railroads and shippers alike.

"Because the covered hopper car fleet is comparatively new, equipment quality is generally quite good, and the technology of current designs is satisfactory—although use of materials which reduce the tare weight would be a significant benefit in terms of energy-saving and light-density-track considerations. Actually," Springrose says, "our only preference in considering the choices of components on covered hopper cars is to insure that the gates are of rack-and-pinion design."

- **Methods are improving.** Springrose finds that "railroad methods for transporting grain have likewise improved in the past decade. These improvements have been largely influenced by the adaptation of grain marketing to unit has been a big help in alleviating car-supply problems, and that trend is continuing. Between Jan. 1, 1978, and May 15 of this year, for example, the railroad fleet of jumbo cars went up by about 20%, while the privately provided fleet increased in numbers by more than 58%. Through April of this year, railroads supplied about 4,000 and private interests about 5,000 of the total number of covered hopper cars placed in service, but private buyers accounted for more than 5,000 of the 5,583 covered hopper cars reported ordered.

● **Not just more, but better.** As UP's grain specialists point out, merely adding more equipment isn't the ultimate answer—especially with the cost of covered hopper cars today and the likely cost tomorrow if inflation is not checked and reduced.

UP is looking for ways to get better utilization out of both railroad and shipper equipment and to wring costs out of the total transportation environment. These needs, some believe, may require changes in the next 10 years—maybe even the next three to five years—that are more dramatic than the changes that have taken place over the past decade or so.

Like other roads, UP has done its share of experimenting with the shuttle-train concept, with results that it regarded as good in terms of equipment utilization but with less than full shipper participation. From a railroad standpoint, loading from a basic origin area to a common destination makes sense—but, as the carriers recognize, this sort of operation can reduce the flexibility some shippers hold dear.

Then there is the matter of inspection, sampling, and grading of grain. For the most efficient grain transportation operation, some contend, these operations should be carried out at origin or destination, not at other points where inadequate facilities or other problems cause delays and interfere with good utilization of equipment.

● **The word: Cooperation.** For the 1980s and beyond, efficient handling of grain and its allied products clearly will require cooperation between carriers and customers to an even greater degree—with some degree of cooperation from government thrown in. These are just some of the angles involved:

—Customers' ability to flatten out still further the peaks and valleys of transportation demand. Good progress has been made in this area, especially in the past few years, but further stabilization efforts should perhaps be made (government and the weather willing).

—The railroad industry's ability to handle continuing increases in volume. Heavy spending for new equipment, by both railroads and users, has created what appears to be an adequate fleet, but it's a fleet that could stand an improvement in utilization.

—The impact of branch line abandonment programs and railroad mergers. Abandonment is an old story, with some roads writing more chapters than others, and it will continue to be written, because it makes little economic sense to trundle $50,000 freight cars over light-density lines barely able to handle them in the first place and then to let the cars sit at some remote elevator waiting for loading, pickup, and eventual trundling back to a main line for makeup into a forwarding train. Merger, on the other hand, is something

roads—and like what they see

A. T. Walters
Allied Mills

trains. Without unit trains, agriculture would have unequivocally failed in its attempt to break, and break again, grain export volume records. Unit trains, however, are not conducive to every kind of movement, and domestic applications of unit train concepts have been particularly troublesome because of the lack of concentration of volume and the need for product variety. Experiments with minitrains and/or sweep trains are in the early stages of development, and applications have been relatively sparse to date. As railroads merge and abandon duplicate service and light-density lines, we could see an expansion of unit and minitrain concepts to close the gap created by the resulting changes from what have been historic distribution patterns."

Allied Mills' Walters, while commenting favorably on development of jumbo covered hopper cars and unit train operations, does raise a different point regarding equipment: "I have often been amazed at the slow development of the so-called convertible hopper/boxcar. Periodically, we read about this, and it would appear that such a car would be highly desirable from a theoretical standpoint in the develoment of two-way loaded moves."

That particular concept, Walters adds, now may have its limitations because of the volume that unit trains can handle. Still, he says, "There are probably areas where this car would serve a very useful purpose—and maybe someday the concept will be more completely developed."

● **For tomorrow...** As for basic changes that may be coming in grain marketing and transportation and in rail transportation overall, Walters expresses confidence that "when the demand is received for changes in our existing system, the flexibility exists to meet this demand, though I don't believe those changes can be forced by some theoretical or arbitrary concept."

Springrose finds that "In general, the trends of the past decade have been positive, and my vantage point suggests that three important factors will influence continued development of a more efficient national railroad system. These are:

"First, rehabilitation and modernization of railroad terminals. Most yards were built before the turn of the century, with design that followed the needs and the projections available at the time. I believe the record shows that the real growth of the railroad industry in the ensuing years rendered these yards grossly inadequate. Their major drawback in today's environment is that they become the principal deterrent to higher productivity in times of heavy volume.

"Second, the current influence and direction of legislative and regulatory agencies of government toward contracted railroad transportation. The values of railroad contracts to carrier and shipper alike have been amply expressed. In short, they allow both industries to better plan their business and eliminate the lingering waste in the grain and grain products distribution system.

"Finally, the next decade should alter the intermodal traffic mix because of fuel cost and availability factors. Railroads have an inherent advantage here, one which is just beginning to surface. I assume that railroads are going to capitalize on it."

newer—at least in the West, where the grain grows tallest—and traditional marketing patterns could well change because of it. For example, Burlington Northern-Frisco merger will give BN single-line service to eastern Gulf Coast ports, while merger of Union Pacific with MoPac would open the Gulf Coast to UP for the first time, thus expanding market opportunities for UP grain shippers.

—Government action. Traditionally, government has played farm policy as a political instrument, domestic and most recently foreign, and this is something that transportation agencies may simply have to make the best of. Given the production capacity of the U.S. and the world demand for grain (which tends to fluctuate more by location than by volume), export movements can be counted on to grow despite government's gyrations. Certainly, the Russian embargo has not had the impact originally forecast, at least not yet. Domestic policies, however, may continue to involve greater swings, depending upon whether elected officials regard it in their best interest to encourage or to discourage planting and upon whether they see advantage in being more or less liberal in support programs. One proposal now wending its way through Congress is not atypical of the differences of opinion that farm-and-rail-related legislation can produce: This bill, already approved by the Senate and by a House committee, would provide planning grants for concentration of storage facilities along rail main lines and major branch lines, as well as loans for construction or improvement of such subterminal facilities. It has the approval of some railroads—but not all. It caught flak from some shippers who saw it as government encouragement of branch line abandonment, even as supporters in Congress argued that instead it was an attempt to prepare for the abandonments that were going to take place in any event, a situation pointed up by what has happened this year with Rock Island and Milwaukee Road.

- **No tears.** But overall, amid uncertainty and occasional controversy, grain-hauling railroads decline the crying towel, as do major grain industry customers.

Who better to sum it all up than a man whose company started a long time ago to try to work with railroads to improve grain transportation, Cargill Vice President James V. Springrose of Rent-A-Train fame? Cargill may have been less than happy with the government's action against shipments to the USSR, but Springrose puts it this way: "Today's depressing post embargo times notwithstanding, we're optimistic about the continued growth and prosperity of agricultural related industries. I would expect the railroad industry to share in that prosperity, as a necessary link between producers and consumers." ■

How one big grain co-op

AGRI Industries is among those Iowa shippers that work closely with the railroads—sometimes even putting up cash in advance—to insure good service.

Railroads serving Iowa are learning that they have an aggressive customer in the state's biggest grain cooperative, American Grain & Related Industries (AGRI). Formerly known as Farmers Grain Dealers Association, the cooperative is taking a new market stance based on luring grain producers with futures trading, a proven approach of such private company competitors as Cargill, Continental, and Pillsbury. For the transportation needed to support its new competitiveness, the cooperative is both luring railroads with contracts that guarantee plenty of business and chasing funds for track-upgrading in the state.

"Where we can make a big impression is to guarantee that the revenue will be there, that this grain will be marketed, and we'll write contracts for both service and rates guaranteeing that the volume will be there," says Maurice Van Nostrand, AGRI director of market research.

A former Iowa Commerce Commission chairman (1971-79) and before that a state legislator, Van Nostrand can claim involvement with railroads going back many years. That includes operation of his own grain business in southwestern Iowa. He says shippers in Iowa generally have grown accustomed to the idea of some sort of contractual affiliation with railroads, though often they've been motivated more by circumstances than by other considerations.

That's especially true of shippers participating in shipper/state programs for financing track repairs on the Rock Island. Van Nostrand says AGRI can muster its members for still broader participation in such programs, in which shippers get a fairly quick return of interest-free money, paid back on a per-car basis.

Such arrangements, in fact, are probably the best kinds of contracts, says Willard R. Clarkson, AGRI grain division assistant vice president-rail transportation. "Cash advanced is better than a signature on a contract, because the shipper knows he'll have to provide the volume to get his money back," Clarkson says. Both he and Van Nostrand, however, see AGRI and its members getting in more deeply through service/rate contracts. But Clarkson says they want contracts based on incentives rather than penalties and including receivers as well as shippers for the best possible control of a movement.

- **"Clout by volume."** The fact that shippers have been willing to put up money—for fast-loading facilities and their own car fleets as well as for track work—shows they're sure they can provide the volume, Van Nostrand says. From there, it's just a short step to contracts specifying volumes and service levels, as well as rates. It's a "clout by volume" approach that takes into consideration the railroad's right to a reasonable rate of return. But one thing Van Nostrand and Clarkson are wary of is covering a railroad's costs incurred elsewhere on its system. In that, they share many other shippers' concern about "cross-subsidization," that is, being forced to carry a larger load through rates than warranted by their own requirements.

They think Iowa shippers have already done plenty of that, especially with regard to the Rock Island. They cite members' financing of track repairs in Iowa while the Rock Island carried out its own rehabilitation in other states. That applies to other railroads in Iowa, too, and that's why shippers now wonder how much more they can be expected to do.

"We have to have railroads capable of providing the service that we need, but we are not willing to pay a premium," Clarkson says. "We know we're going to have to pay the legitimate costs of a reasonable level of service, but we can't cover losses generated elsewhere," Van Nostrand adds.

About 30% of AGRI's 325 members have invested in facilities for fast loading of 25-car minimum trains, have bought or leased cars, and have put up money for track repairs. Some of those shippers are on the Milwaukee Road's north line across Iowa, where AGRI operates a shuttle train under Van Nostrand's notion of a contract rate: "Milwaukee furnishes locomotives, cabooses and crews, and we furnish all the cars. We dispatch from our Mississippi River elevator at McGregor every morning. The train serves 21 elevators, but no more than five at a time with no fewer than five cars per stop. That's how I like to think of contract transportation. We're not just talking a rate, we're talking a guarantee of revenues to the railroad, a guaranteed number of miles, and we're guaranteeing

FIFTH OF A SERIES

Railroad technology

L&D prevention

Forging new weapons for the war

If railroads are serious about trying to wipe out waste, then the prevention of freight loss and damage has to rank right up there at the top of the priority list. Because, as Southern Railway President Harold H. Hall puts it, "the waste that hurts the most. . .is the waste involved in damage to our customers' freight or to our equipment. This is really money down the drain—not to mention good will gone the same way."

Last year, more than $328 million went down that drain in direct payout costs. This was an increase of about $23.6 million over the 1978 figure, but it is possible to find good things in the industry's '79 performance on L&D: The ratio of payout to freight revenues was 1.20%, lowest since 1955; the number of new claims filed was a bit more than 2.1 million, lowest since 1936; and if it hadn't been for the inflation that occurred between 1978 and '79, payout last year would actually have declined by 4.2% instead of increasing by 7.8%. Nevertheless, freight loss and damage cost railroads the use of more than $328 million last year, and that hurts, whether the dollars are inflated or not.

Can technology help to cut the cost of L&D? It can, in just about every technological "discipline" involved in railroading, from the design of classification yards to the use of highly sophisticated equipment to give locomotive engineers better training in train-handling and the development of improved load-restraining devices.

● **Three areas of attack.** If you look at the causes of loss and damage, it's not hard to spot areas where technology can help: Out of the 12 cause categories into which the AAR separates L&D payout, only three accounted for more than 3% of the total—and all three are susceptible to a hardware-oriented attack.

Ranking third on the list last year was robbery, theft, and pilferage. Better locks and seals won't eliminate these problems, but they will help to keep them under control.

Ranking second in '79 was train accident, which resulted in more than 26% of total L&D payout: The Track/Train Dynamics program and other industry/supplier/government programs are taking dead aim on the laudable goal of keeping trains on the track, and they should soon be paying off in terms of design improvements that will cut the derailment rate.

Ranking first in 1979, as usual, was the catch-all Category 3, all damage not otherwise provided for (damage for which no specific cause can be attached). This accounted for 50.02% of total payout, and here is where specific technological developments may have their best shot, at least for the short term.

The need still exists for giving engineers more precise training in getting their trains over the road smoothly, just as the need is still there for improving lading-protection devices and getting them installed on more cars in the fleet. Fortunately, both of those needs are being worked on. More railroads are making use of such devices as FreightMaster's Mobile Train Handling Simulator, for example; and more and more suppliers are lining up for the kind of organized test program the AAR's Freight Claim and Damage Prevention Division has been able to set up. Further, the division's data collection system is making possible a far more precise analysis of where damage is occurring and why—and this is helping to encourage the improvement of loading and unloading operations and the development of better lading protection equipment. As one AAR officer puts it, "When we can walk in with a computer printout that pins damage down to specifics, we gain a certain amount of credibility."

● **Emphasis on prevention.** It wasn't always this way. For many years, loss and damage was regarded as just another cost of doing business, reflected in a number of ways. Until fairly recently, L&D claim *prevention* was relegated to a secondary status in what was called the AAR Freight Claim Division. Companies such as Evans and all the manufacturers of cushion-underframe and end-of-car cushioning devices slogged along trying to get their equipment adopted against opposition based partly upon initial cost and partly upon that time-honored railroad theory that when you start hanging a lot of jewelry on a railcar it's going to cost more than it saves; meanwhile, railroads just watched as high-rated business went to trucks.

Fortunately for the rail industry, both of those old hang-ups have been hung up: Within the AAR organization, prevention now has at least equal status with the business of paying claims, and among both suppliers and railroads, there is increasing interest in the technology of damage prevention. For example, AAR's test program for damage prevention devices, placed in effect not a long time ago, has handled close to two dozen tests, has 18 in the active test stage and is looking at proposals for testing of seven or eight more devices.

R. A. Grover is AAR's director-damage prevention, and he takes second place to nobody in his enthusiasm about what has been happening in damage prevention in recent years. Supplier interest, Grover says, "has been tremendous." Before '75 when the test procedures were formalized, he points out, suppliers "just wandered about. . .but now we have es-

EXCESS HEIGHT CAR

Portec's total systems approach has paid off

Motor vehicles: Despite advances, problems persist

If you look only at the raw numbers on freight claim payout on motor vehicles and parts, you get a sinking feeling: On an 11% decrease in carloadings of vehicles and equipment last year, payout was up sharply—by 8.5% to $92.5 million on cars and trucks and by 33.1% to more than $8.8 million on parts. Together, vehicles and parts accounted for 30.9% of total loss-and-damage payout, up from 30.2% in 1978.

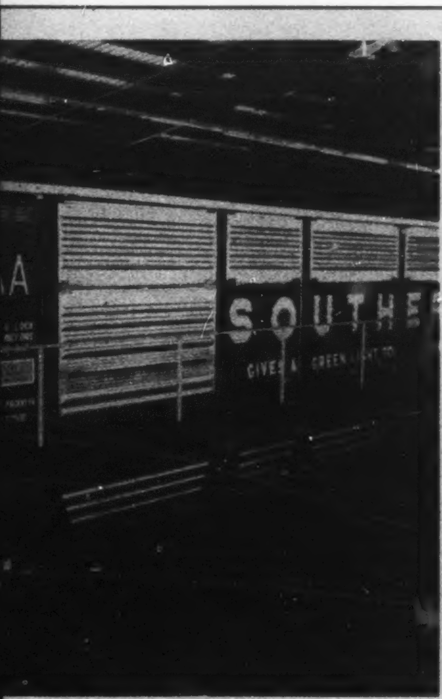
Yet the fact remains that the AAR, indi-

against waste

tablished procedures for testing—and those procedures clip right along. It doesn't take a long time to come to go or no-go decisions. What we have is a system that makes it a lot easier for all concerned. Testing is a lot more accurate, and we've eliminated a lot of seat-of-the-pants flying in damage prevention."

- **More R&D, more testing.** The work of research, development, and testing for L&D prevention is not very exciting; a lot of it is duller than watching paint dry. But Grover and FC&DP Division Executive Director J. C. Hindman—as well as a growing number of railroads and suppliers—are looking at bottom-line impact, and that accounts in large part for the renewed and increased interst in development and testing of damage-preventing equipment.

In recent times, for example, AAR Damage Prevention Section people have been working with manufacturers of such products as load-restraining devices for



in sturdier, safer rack cars.

vidual railroads, and a number of suppliers have made significant strides in the past few years in the damage control area.

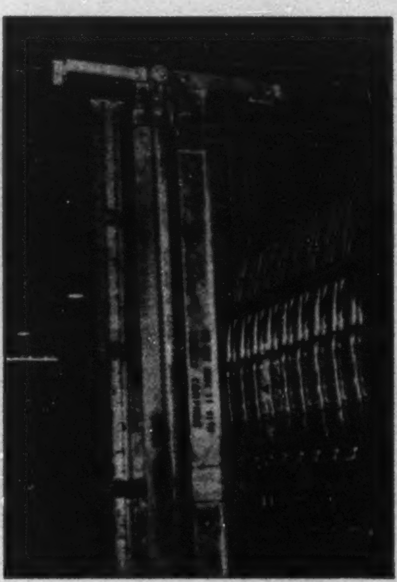
Item: AAR's Damage Prevention Section was scheduled to complete its audit of automobile loading ramps earlier in June; meanwhile, the monitoring program was also being applied at destination ramps. Thus far, AAR says, it has been "very pleased" with the response of both railroads and customers: "We find that many of the recommended corrections are being made even before the audits are completed."

Item: Improvement in racks and tie-down equipment is reducing the potential for damage during the rail line-haul. At Portec, for example, this has taken the form of a total systems approach, with the Shipping Systems Division developing improved securement devices such as the Model 1090 unidirectional, low-profile, tie-down winch and the Railcar Division working to make the racks themselves sturdier and more protective of the valuable cargo.

Item: Earlier this month, the Engineered Products Division of Evans Products' Transportation Systems and Industrial Group introduced a new DF stanchion system to prevent damage in shipment of auto parts. The new device, which comes four stanchions to a car set and is available in steel or aluminum, is lighter in weight and, Evans says, safer than the bulkheads that have been used in parts cars.

- **Costs vs benefits.** Of course, despite these advances by all concerned, problems remain. End doors on racks have been something of a problem, in good part perhaps because ramp personnel are less careful than they should be in making sure doors are secured before cars are moved. Despite the increased sophistication of the equipment and the increase in the enclosed-car fleet (now 23% of the total), motor vehicle payout increased most last year in the catch-all category and in the category covering robbery, theft, and pilferage. Ironically, after all the pressure that had been applied by the automakers to get more fully enclosed cars into the fleet, one builder is finding that with the downturn in the economy, two auto manufacturers are again specifying an older version of the protected rack, the one with screened sides but no roof and no end doors—a trade-off, apparently, between increased risk of vandalism and a savings of about $16,000 per rack.

Obviously, the battle to reduce damage costs on automotive industry traffic is far from won. But on the other hand, you have to wonder how high payout would have rocketed had the AAR, the carriers and suppliers *not* undertaken the safe shipping and product development programs that have been put in place in the past several years.



Over many years, a variety of damage-preventing bulkhead systems have been developed by a number of manufacturers. One of the most popular with shippers: Evans Products' single and dual Air Pak systems, the single for loads that come close to filling the length of the car, the dual for stopoff loads or loads that leave a substantial void.

freight cars and piggyback trailers, various kinds of wrapping materials, plastic and steel strapping, lading barriers, inflatable dunnage bags, buffer materials, and void fillers. They have worked with more than a half-dozen manufacturers on problems of packaging materials and design. They have worked with shippers of such commodities as furniture, building materials, petroleum products and chemicals, farm and food products, farm equipment, primary metal products, appliances, electronics equipment, and, of course, automobiles and trucks.

The full test procedure for a new damage prevention procedure or device may cover a six-month period and will include standardized impact testing, movement of 25 test loads and a thorough analysis of results, followed by approval or disapproval by the Damage Prevention Committee.

- **Test procedures.** For both impact testing and loaded-movement testing, AAR has attempted to develop standard procedures that are both fair and detailed. Impact testing, for instance, requires that a test car be shoved, released, and allowed to roll into a cut of buffer cars (with brakes set) four times at precise coupling speeds. The first three impacts must be at speeds of 4 mph, 6 mph, and at least 8 mph, and the fourth impact must be on the opposite end of the test car at least 8 mph, with no readjustment of the lading or reconditioning of bracing or securement devices permitted during the testing. Impact speeds must be accurately recorded, along with the results of each impact on blocking and lading.

Movement-test requirements are no less detailed. Here, AAR requires that enough cars or trailers be used to insure that a minimum of 25 reports are developed and, depending upon circumstances, it may also require comparison data on at least 25 shipments that utilize an already approved shipping method. Each of the required reports must include both origin and destination inspections, with the proponent of the new system responsible for 15, the origin and destination carriers five, and the Damage Prevention Section five. After analysis of the resulting data, reports go to the Damage Prevention Committee, which has to give the go or no-go decision on a proposal.

Obviously, some new procedures make it—and some don't. One that made it, on the basis of a 28-car test, was a proposed wedge-block method for lengthwise bracing of plywood loads in cushioned cars only. This test began early last year and involved test movements in both standard and cushioned cars. It didn't pan out in cars equipped with standard draft gears; load shift and wedge-block failure were excessive, and the Damage Prevention Committee issued a "no" vote. But later in 1979 the shipper and the carrier that had requested the tests in the first place came back to the AAR, asking that tests continue in cushioned cars only.

AAR ran tests on an additional 15 cars, added the results to its results from 13 cushioned-car movements in the initial series, and came up with a 92% success rate from the two experimental series of movements. Result: The committee recommended approval of the bracing method for use in cushioned equipment and sent that recommendation out with the required letter ballot.

Another recent test series involved the use of a buffer material for disposable inflatable dunnage in the movement of canned goods. On this proposal, testing didn't get beyond the impact-test stage. Inspection showed that some of the buffer material was crushed and deformed, a bag was punctured, and cans were dented. The committee concluded that this particular loading and bracing method was not able to withstand the standard impact test, and therefore judged it not adequate for use as buffer material with disposable inflatable dunnage for the type of load tested.

L&D payouts in 1979

Cause	Cost
Shortage, packaged shipment	$ 5,484,348
Shortage, bulk shipment	9,001,759
All damage not otherwise provided for	164,074,813
Defective or unfit equipment	8,853,860
Temperature failure	8,937,722
Delay	6,936,798
Robbery, theft, pilferage	23,541,482
Concealed damage	1,464,143
Train accident	86,317,820
Fire, marine, and catastrophe	6,461,390
Error of employee	3,916,748
Vandalism	3,018,959
Total	$328,009,842

- **Pinpointing L&D problems.** Standard test procedures are just one new weapon which AAR (along with railroads and suppliers) can bring to bear on loss-and-damage problems. Another is the new and expanding data base for L&D prevention.

This system has a long way to go before it is perfect—but it's getting there. As of the first of this year, Seaboard Coast Line and Louisville & Nashville began feeding data into the base, joining Santa Fe, Burlington Northern, Conrail, Southern, Southern Pacific, Long Island, and Detroit, Toledo & Ironton; the Family Lines roads came in later. The file now covers almost 50% of the total freight claim payout by AAR member roads.

AAR's Grover calls the data systems approach "a tremendous advance" that makes it possible for prevention specialists to pinpoint damage by location, route, carrier, shipper, receiver—and to do this without turning the Damage Prevention Section into a paper factory. One basic printout turns up leads that the specialists can follow up by going back into the computer for more detailed information.

- **What lies ahead.** Given the advances in testing procedures and in the damage prevention information capability, what is ahead for damage prevention, and where do the opportunities lie? What lies ahead is a prevention effort that should more than keep pace with inflation (as in 1979). As for opportunities, a look at the '79 numbers indicates that there are several:

—Robbery, theft, and pilferage cost the railroads more than $23.5 million last year, 7.18% of the total freight claim bill and an increase of 20.1% from the amount reported for 1978. AAR people see help coming from use of such devices as cable locks, cone locks, and secondary hasps. Improved lighting and fencing in terminal areas would help, as would be a beefing-up of railroad security forces and (where possible) scheduling of movements through high-crime areas to keep trains rolling with a minimum of stop-start operations that provide hit-and-run opportunities for looters.

—The cost of vandalism in '79 jumped by 24.2%, on an increase of almost $590,000, of which $433,421 was accounted for by vandalism on transportation equipment. Of the total payout for vandalism of $3,018,959, more than $2.4 million went for damage to motor vehicles, no other single commodity accounting for as much as $100,000. Enclosed railcars and more of them have to be the answer.

—Better track, better equipment, and improved train-handling would go a long way toward cutting the L&D bill, since accidents did account for 26.32% of total payout in '79. This, of course, is an area where all rail technologies have to come together—but it's also an area where results can fluctuate wildly from year to year. For example, last year train accident costs dropped sharply for damage claims on chemicals and allied products while accident costs shot up on freight-forwarder and shipper-association traffic.

—Coal shipments in '79 increased by 18.7% while L&D payout climbed by 40.1%. More than half of the increase was attributed to train accidents, but more than $1 million came under the category Shortage Bulk Shipment, which could point to a need for spray-coating of loads at origin to prevent loss enroute. (Less significant, but somewhat hard to figure on coal shipments, were a few other numbers for 1979: Railroads paid out $13,453 for theft of coal, $601 for vandalism to coal—and $109 for "concealed damge" to coal.)

Technology won't prevent all loss and damage, but technology—low, medium, and high, stretching from improved equipment and component design to improved train-handling techniques and training—will help. And when an industry is paying out more than $300 million for nothing, help is clearly needed. ■

Market

CARLOADINGS

Loadings of revenue freight in the week ended June 7 totaled 451,326 cars, according to the Association of American Railroads. This was a decrease of 41,945 cars, or 8.5%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended June 7 are estimated at 18.3 billion, a decrease of 2.8% below the corresponding week of 1979.

REVENUE FREIGHT CARLOADINGS

Commodity	June 7 week	May 31 week	May 24 week
Grain	26.261	19.794	24.104
Farm products	4.844	4.068	4.814
Metallic ores	38.093	32.399	37.307
Coal	121.232	102.306	116.446
Crushed stone, gravel & sand	15.984	13.547	15.655
Nonmetallic minerals	14.116	14.004	13.961
Grain mill products	16.712	15.071	16.078
Food and kindred products	17.779	16.558	18.225
Primary forest products	21.070	18.535	18.372
Lumber & wood products (except furniture)	8.880	8.051	8.770
Pulp, paper & allied products	21.228	20.277	21.038
Chemicals & allied products	25.169	22.782	25.133
Petroleum products	5.681	4.962	5.539
Stone, clay & glass products	15.503	13.347	14.791
Coke	4.699	5.022	5.308
Metals & products	14.696	14.379	16.072
Motor vehicles & equipment	16.548	14.012	14.826
Waste & scrap materials	11.478	9.961	11.753
Forwarder & shipping assn. traffic	10.343	8.498	10.259
All other carloads	40.837	34.496	41.170
LCL traffic	173	153	192
Total cars loaded	**451,326**	**392,222**	**439,813**
Cumulative total	**1980**		**1979**
23 weeks	10.134.628		10.343.816
Estimated revenue ton-miles (billions) 23 weeks	408.2		388.4

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended May 31 totaled 27,240 cars (4,784 below the corresponding 1979 week) and 49,088 trailers or containers (down 10.4% from 1979). Cumulative volume for the first 22 weeks of 1980 is 722,247 cars (down 7.5% from 1979) and 1,310,509 (Revised) trailers or containers (down 5.1% from 1979).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended May 11 totaled 5.4 million tons (down 5.8% from 1979). Cars loaded totaled 78,891 (down 6.7% from 1979). Cumulative loadings for 1979 were up to 94.5 million tons (up 7.4% from 1979).

- *Consolidation Coal Co.*—Is considering the purchase of the Canton Marine Terminal bulk facility and certain related assets of the Canton Co. of Baltimore, including the six-mile Canton Railroad. If the purchase is consummated, substantial additional expenditures will be made to convert the Canton facilities to permit their use for transshipment of coal to Europe, Japan and other importing countries as well as to east coast users in the U.S.

- *Norfolk & Western.*—Awarded $16,125,000 of equipment trust certificates to Merrill Lynch White Weld Capital Markets Group. The price of the successful bid was 100.3439% of par, at an average interest cost of 9.93%. The certificates issued under this trust will finance 80% of the $20.2 million estimated cost of 352 covered hoppers and 200 gondolas.

- *Railgon Co.*—Ordered 4,000 gondola cars for delivery starting in July. Pullman Standard will supply 1,500; Thrall Car, 1,000; Bethlehem, 500; Greenville, 500; and Berwick, 500.

- *Freight cars and locomotives.*—The following report has been received from the AAR and the ARCI:

DELIVERED

	April		March	Four months	
	1980	1979	1980	1980	1979
Built new by carbuilders	7,546	6,884	8,224	30,555	26,957
Built new in RR shops	347	432	571	1,809	1,733
Built new - total	7,893	7,316	8,795	32,364	28,690
Rebuilt	181	102	222	607	219
TOTAL DELIVERED	**8,074**	**7,418**	**9,017**	**32,971**	**28,909**
Locomotives	149	127	246	688	534

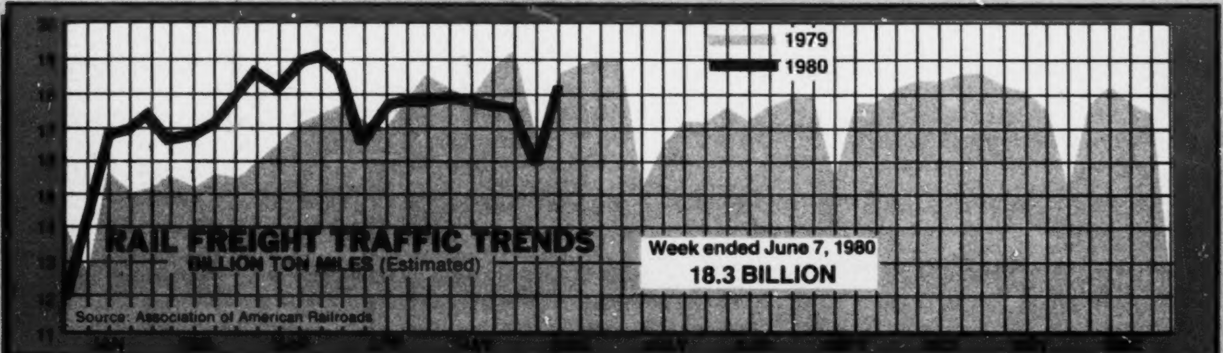
ORDERED

	1980	1979	1980	1980	1979
To be built new by carbuilders	2,851	7,799	3,471	15,908	51,490
To be built new in RR shops	2,650	0	0	2,650	500
To be built new - total	5,501	7,799	3,471	18,558	51,990
To be rebuilt*	36	93	68	869	191
TOTAL ORDERED	**5,537**	**7,892**	**3,539**	**19,427**	**52,181**

ON ORDER AND UNDELIVERED

	May 1		April 1	Average Backlog	
	1980	1979	1980	1980	1979
To be built new by carbuilders	84,847	114,889	96,165	98,708	106,834
To be built new in RR shops	7,093	5,078	4,790	5,767	5,887
To be built new - total	91,940	119,967	100,955	104,475	112,721
To be rebuilt	432	59	577	642	126
TOTAL ON ORDER	***92,372**	**120,026**	**101,532**	**105,117**	**112,847**
Locomotives	1,083	1,065	1,114	1,194	1,203

*Due to revisions and cancellations of some orders, the backlog has been reduced by 6.623 cars. Cumulative figures for car orders and deliveries have also been adjusted.



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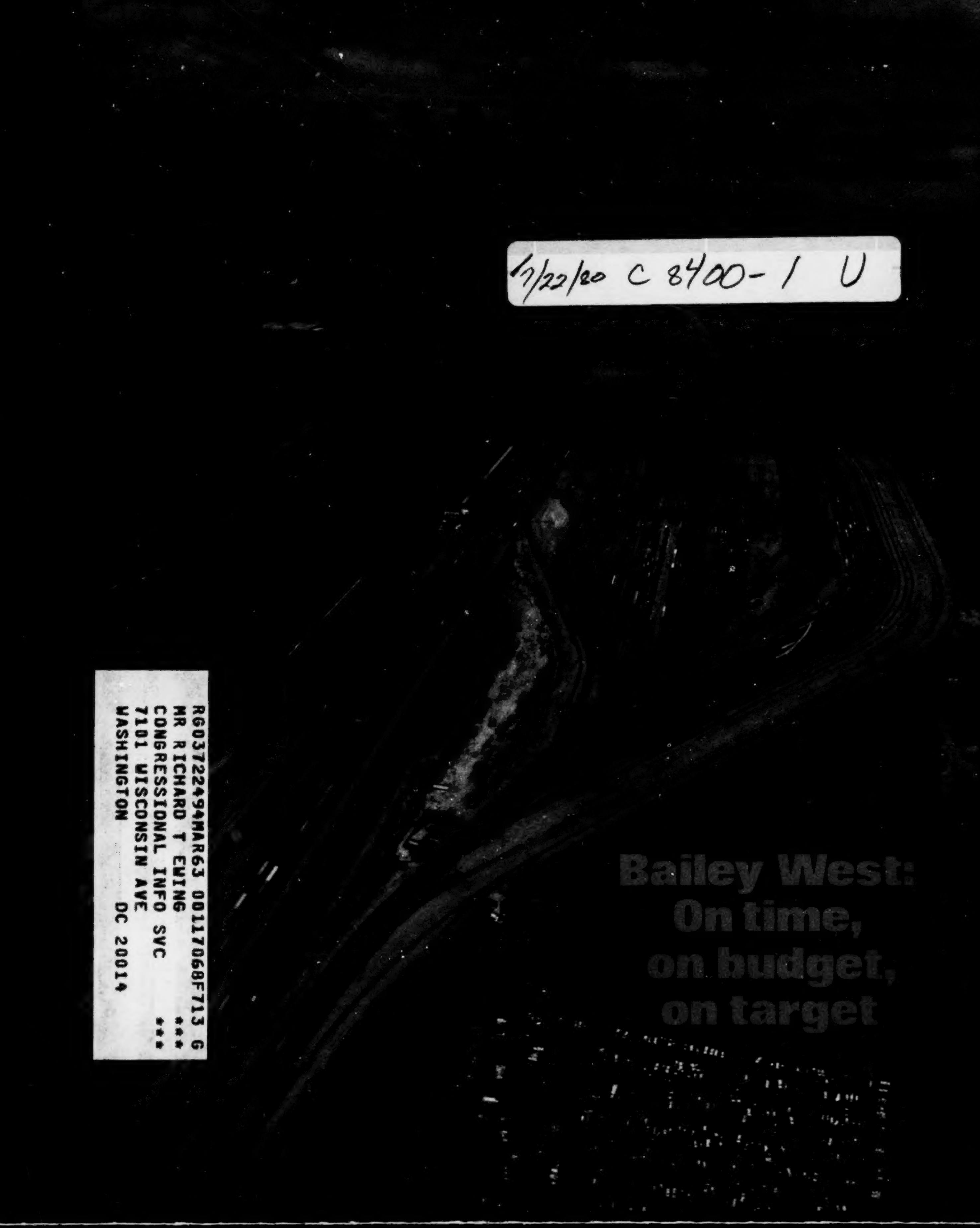

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CONGRESSIONAL INFO SVC ***
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WASHINGTON DC 20014

Bailey West:
On time,
on budget,
on target

RAILWAY AGE

USPS 449-130

July 14, 1980 • Vol. 181, No. 13

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Inside

LUTHER S. MILLER

RECESSION—AND REACTION

On July 1, as he issued his company's "flash" report on first-half performance, Chessie System's Hays T. Watkins summed up the current economic picture as "deteriorating and dismal." Just how dismal it is for the railroads is described in our midyear report on the state of the industry (p. 21). Traffic is slumping across the board; around 200,000 freight cars and more than 3,000 locomotives are lying idle.

There is one bright spot in the picture, and it has been an extraordinarily bright one for Chessie. Western Europe has suddenly developed an enormous appetite for Appalachian steam coal. As a result Chessie's export coal loadings were up 57% during the first half, and were largely responsible for the system's excellent financial showing (p. 4).

But like other railroads, Chessie is hurting when it comes to high-rated merchandise traffic. Chessie carried 117,000 fewer cars of this traffic in this year's second quarter than in the corresponding 1979 period.

Chessie's reaction: "To combat the effects of declines in industrial production we are mounting an aggressive advertising and marketing effort in the merchandise areas," says Watkins.

Where it is possible and prudent, Chessie, like other railroads, is cutting back, trying to match maintenance programs with demand. But, says Watkins, "We are determined not to sacrifice the future for the present....For the balance of 1980 we plan to continue roadway maintenance programs at the record levels established at the start of the year. Continuation of these programs, as well as other capital projects, and our ability to adjust equipment programs quickly as economic recovery becomes clearer will keep us in a good position to give our customers the best service possible."

Some other railroads we have talked with are taking a similar stance—among them, Burlington Northern, Southern, and Norfolk & Western. (NW, incidentally, is about to launch its first big major advertising campaign in many years—not a panicky, "stepping into the breach" tactic, explains an NW spokesman, but a long-planned program with the theme, "There's no stopping us.")

These are, of course, strong railroads that are better situated to react positively to negative situations than some others. But the fact that they do react that way may be one reason there's no stopping them.

MERGERS—AND "DISTRESS" AT THE ICC

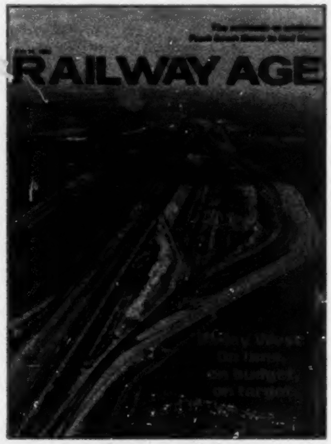
Darius W. Gaskins, who became chairman of the Interstate Commerce Commission several months ago, has been such an exceptionally perceptive leader, and has steered the commission onto such an eminently sensible course with respect to regulation, that we hesitate to be critical of the man. But a recent comment of his requires comment in return. "I am distressed," said Gaskins, "to see some of the best brains in the railroad industry playing around with the railroad map like kids with a Monopoly Board when there are so many other problems unsolved" (p. 26).

The fact is that these "best brains" in the business—at the Southern, at Santa Fe, at UP, at MoPac, at Chessie, at SCL, at NW, at SP, at BN, at Frisco—have taken the lead for years in resolving those problems, whether technological or operational, that *have* been resolved. The only real complaint is that they have been so busy with these "other problems" that they are just now getting around to taking care of one of the biggest—trimming a bloated industry to fighting size.

RAILWAY AGE

July 14, 1980

FEATURES



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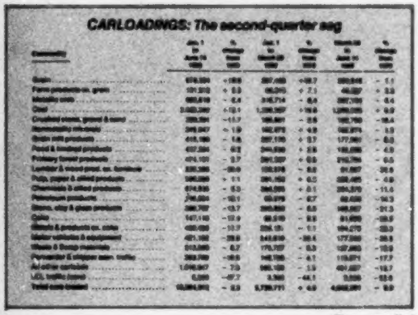
CARLOADINGS: The second-quarter sag

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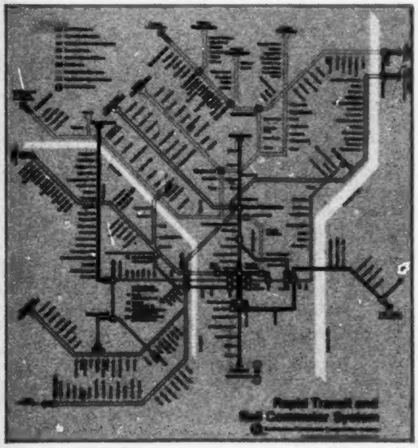

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Completion of the westbound facility makes Union Pacific's Bailey Yard in North Platte, Neb., the nation's largest rail complex. Bailey West, however, is no mirror image of Bailey East, and this article explains how and why they differ.

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COVER: Aerial view of Union Pacific's new Bailey West yard.

CARLOADINGS: The second-quarter sag

Commodity	Jan. 1 to June 14 1980	% change from 1979	Jan. 1 to March 29 1980	% change from 1979	March 30 to June 14 1980	% change from 1979
Grain	678,334	+19.8	397,428	+40.7	280,946	− 1.1
Farm products ex. grain	101,912	+ 5.3	55,315	+ 7.1	46,597	+ 3.3
Metallic ores	683,818	− 6.4	316,714	− 6.4	367,104	− 6.4
Coal	2,605,382	+13.1	1,339,357	+19.6	1,266,025	+ 6.9
Crushed stone, gravel & sand	329,391	−11.7	166,601	− 2.6	162,790	−19.4
Nonmetallic minerals	345,847	+ 1.9	182,873	+ 4.8	162,974	− 1.2
Grain mill products	415,169	− 1.8	237,178	+ 3.7	177,991	− 8.3
Food & kindred products	437,234	− 0.3	244,638	+ 2.8	192,596	− 4.0
Primary forest products	474,101	− 2.7	261,307	+ 0.5	212,794	− 6.5
Lumber & wood prod. ex. furniture	225,383	−20.0	133,576	− 8.2	91,807	−32.6
Pulp, paper & allied products	509,588	+ 1.1	281,163	+ 6.5	228,425	− 4.8
Chemicals & allied products	674,935	− 5.3	380,565	+ 0.1	294,370	−11.4
Petroleum products	146,004	−10.1	83,976	− 6.7	62,028	−14.3
Stone, clay & glass products	369,707	−13.7	200,850	− 6.0	168,857	−21.3
Coke	147,116	−17.4	85,516	− 9.3	61,600	−26.5
Metals & products ex. coke	420,430	−11.7	236,157	− 1.1	184,273	−22.3
Motor vehicles & equipment	421,152	−29.6	243,619	−23.4	177,533	−36.5
Waste & Scrap materials	313,590	− 6.7	175,727	− 0.3	137,863	−13.8
Forwarder & shipper assn. traffic	263,799	−10.5	148,728	− 4.1	115,071	−17.7
All other carloads	1,016,647	− 7.3	565,120	− 1.5	451,527	−13.7
LCL traffic (cars)	5,333	−47.7	3,303	−44.1	2,030	−52.6
Total cars loaded	**10,584,912**	**− 2.3**	**5,739,711**	**+ 4.0**	**4,845,201**	**− 8.9**

The railroads at midyear:

From boom times to bad times

Transportation historians may well look back on 1980 as a watershed year—the year that saw Congress finally free the railroads of many of their regulatory shackles; the year that saw a massive merger movement begin to reshape the industry into a hard and prosperous core of half a dozen major systems.

But if the railroads' long-term prospects have rarely been brighter, the short-term picture for both railroads and their suppliers is one of gloom.

After an unexpectedly strong first quarter, traffic has started to slide. Revenue carloadings, up 4% in the first quarter, were down 9% in the first 10 weeks of the second quarter—a 13% shift in an industry that loses around $25 million on a 1% drop in traffic. Only coal and farm products continued to outperform year-earlier levels—and even coal, the biggest single commodity in the traffic mix and the one widely regarded as recession-proof, was slipping (see table). Grain, after posting a 41% gain in the first three months, slid at least temporarily into the deficit column. The heavy losers in the first quarter—stone, gravel, and sand; lumber and wood products; petroleum products; coke; metals; motor vehicles and equipment—were heavier losers in the opening weeks of the second quarter.

Piggyback traffic has been particularly disappointing. With rising fuel prices, railroads have looked to piggyback to win traffic back from the highways. But piggyback loadings for this year's first 24 weeks were down 8.1% from 1979; for the week ended June 14 they were down 15.1%.

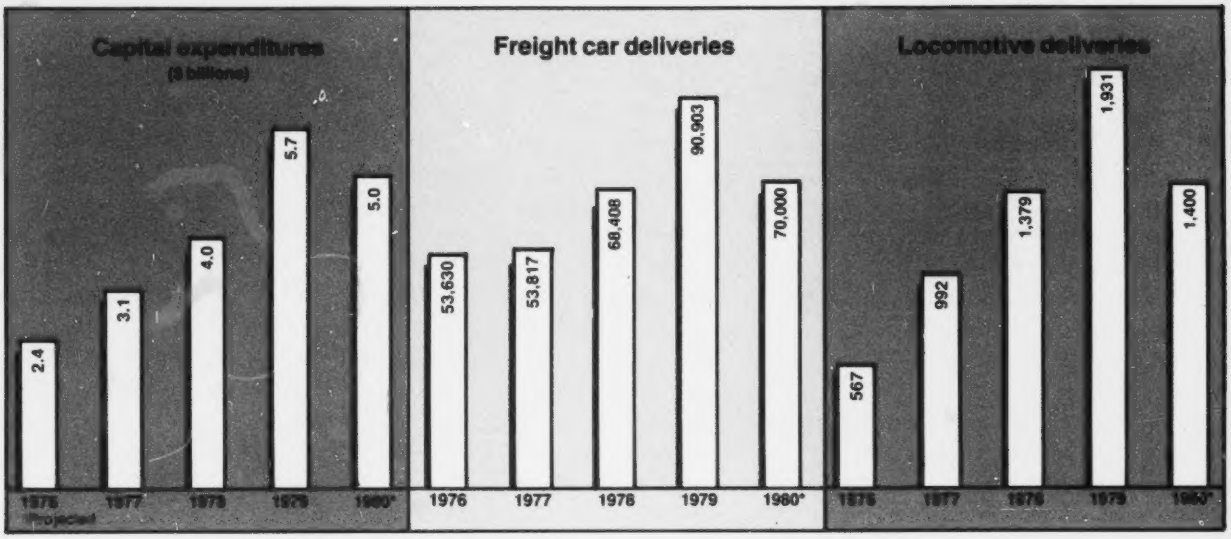
If the downturn gets no worse, most railroads are cushioned against any real financial shock: Freight rates are 12% above year-ago levels, and new increases are pending at the ICC. But costly, idle equipment is another matter.

- **Empty cars, idle locomotives.** On July 1, around 200,000 freight cars out of a total fleet of 1,700,000 were empty and not moving. Estimates of the number of locomotives in storage, out of a fleet of 28,400, ranged from 3,000 to 5,000.

Not surprisingly, there was no great enthusiasm for repairing bad-order equipment. "That would be like putting your savings into a checking account," observed AAR Executive Vice President Richard E. Briggs.

Thousands of shop workers have been laid off. Chessie furloughed 741 at Raceland, Ky. Norfolk & Western laid off 1,464 systemwide, citing a 24% drop-off in merchandise traffic; NW hopes to recall most of them in August "when the summer slump is over." Burlington Northern, whose traffic has held up relatively well, spurred by continuing strong coal movements, laid off 300 systemwide. But Conrail, with traffic down around 20% across the board, furloughed nearly 2,000 workers, including 275 at its Altoona, Pa., shops where work on an order for 2,000 gondolas was suspended after 520 had been built.

- **Cancellations.** The Conrail car cancellation is not the only one. It's estimated that orders for 25,000 to 30,000 new cars have been cancelled since Jan. 1—partly due to declining traffic, but largely due to the fact that many more cars were



ordered in the last two years than the industry really needed, as outside investors poured money into the market in an effort to reap fast benefits from high per diem equipment. The American Railway Car Institute in its most recent tally still reported 92,000 cars on builders' backlogs, down from 120,000 a year ago. Informed industry sources believe this figure may be about 20,000 cars too high. "We've had a lot of new people come into this business who sometimes report shaky space reservations as firm orders," says one supplier.

Current estimates call for production of 65,000 to 70,000 new cars this year, down from 90,000 in 1979, and 1,400 new and rebuilt locomotives, down from 1,900 last year. This is a sharp downward revision from early-year estimates of 85,000 cars and 1,900 locomotives.

One carbuilder that six months ago was anticipating production of 23,000 cars this year has now cut its estimate to 14,000. Freight car castings, which were in such short supply a year ago that builders were buying them offshore at premiums of $1,000 per carset, are now in oversupply. One castings manufacturer is planning its first major layoffs in nearly 20 years.

- **Weathering the storm.** If there's a bright spot in the picture, it is provided by the fact that both railroads and their suppliers are in better shape to ride out stormy financial weather than they have been in for several years.

Last year Class I railroads as a group earned $813.9 million in net income, their best showing since 1966. The rate of return on net investment climbed to 2.68%, highest since 1974's 2.70%. In this year's first quarter—thanks to a mild winter, higher freight rates, strong grain and coal traffic, and stronger than anticipated merchandise traffic—the railroads netted $274 million, up from $49.1 million in the comparable 1979 quarter. The rate of return for the 12 months ended March 31 was 3.6%, up from 2.4% a year ago.

This prosperity spilled over into the supply field. Freight car production last year was the highest in 22 years. Locomotive production was at a 26-year high. Sufficient new business is already firmly committed that calendar year 1980 will also be a good one for most suppliers. "We won't really start hurting until 1981," says one component manufacturer, who is forecasting that freight car production next year will drop to 40,000.

- **A well-timed recession.** Most railroads are reexamining their capital budgets, though no major cutbacks have so far been announced. In a time of short-term stress, long-term needs aren't being forgotten. BN, for example, says that while it may trim its overall budget, equipment orders won't be affected. The AAR's Briggs estimates that total capital spending this year—by railroads as well as nonrailroad purchasers of equipment—will drop to $5 billion from the $5.7 billion actually spent in 1980.

"Fortunately," says Briggs, "this recession finds us in a good position to cut back on expenditures. We certainly have an ample supply of equipment. And we have invested sufficiently heavily in track in the last four or five years that we can cut back without doing ourselves any real harm."

- **Good news from Washington.** In addition to the recession, which was both later and deeper than anticipated, the year has produced other surprises. These have come from Washington, and for the most part they have been pleasant surprises.

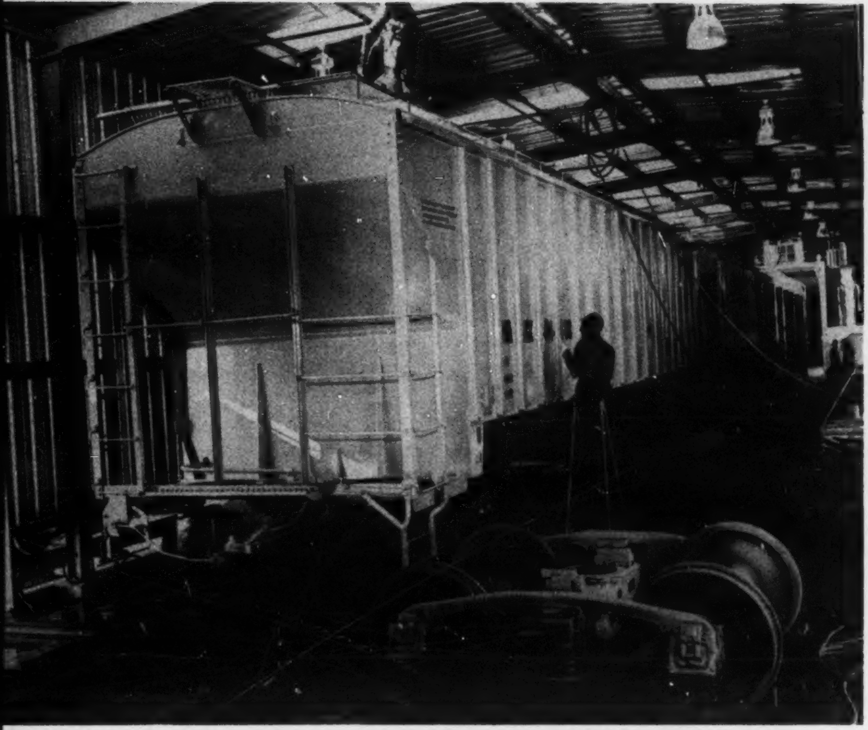
As one observer of the federal scene puts it: "Washington seems to have been working hard this year to surrender its claim as the seat of power in the railroad industry."

At midyear, the ICC had a fistful of pending proceedings designed to loosen the agency's powers in such areas as ratemaking, car service orders, and freight car per diem payments. Meanwhile, the Senate and the House were ready to sit down and work out differences in rail deregulation bills that are more to the industry's liking than anyone thought possible just six months ago. The final bill will probably make 1980 an even greater milestone for rail legislation than the landmark years 1973 and 1976. In both the regulatory and legislative arenas, the surrender of federal power has been vigorously pushed by the Carter Administration.

Almost every announcement from the ICC in 1980 has been of a further initiative to strip itself of regulatory authority. The commission is considering proposals to open up a zone of reasonableness within which rates could be increased without challenge; to limit its definition of market dominance; to liberalize rules governing demand-sensitive pricing; and to clear away many of the remaining barriers to contract ratemaking. Like Congress and the Carter Administration, the ICC has been prodding railroads to shift from general rate increases to independent action.

The ICC is also studying proposals to ease its car service rules and put more flexibility into the per diem payment program. One long-standing proposal would eliminate the incentive per diem program entirely.

- **Getting ready for deregulation.** The current of reform at the ICC has been particularly strong since Darius Gaskins became chairman and is due partly to a perceived need to prepare for new deregulation legislation. The commission admits that it was slow to follow up on



In a declining freight car market, demand for covered hoppers remains high. Above, one of 900 cars Ingalls Shipbuilding has built for North American Car at Pascagoula, Miss.

provisions of the 4R Act of 1976; in 1980 it wants to be ready.

At the beginning of 1980, it was uncertain whether Congress would be able to overcome overwhelming obstacles to regulatory reform and pass any rail deregulation bill at all. Now the big question is how Congress will resolve the differences between the Senate's bill and a more sweeping House bill. Both bills have won the support of the railroads, though the House version has been preferred because it would allow greater ratemaking freedom.

The Senate bill passed April 1 with a maximum-rate compromise that leaned toward the railroads. Shippers, especially coal shippers, were not particularly happy with the new freedom railroads would have to raise their rates, but they turned around and supported that compromise against the stronger House bill.

Six months ago there was a serious split within the railroad industry that threatened to eliminate any reform of the joint rates process, generally considered essential to effective deregulation. On April 21, the ICC struck down some unilateral surcharges imposed by Conrail in its own attempt to get out of unprofitable joint routes. By that time, however, Conrail had reached agreement with the Southern—leader of the antisurcharge bloc—on compromise legislation that would allow a carrier to apply a surcharge to a joint route in order to obtain 110% of its variable costs and make it easier to cancel unprofitable routes. That compromise has been included in the new legislation, modified slightly by the House in an attempt to appease short-line operators who feared being frozen out of existing agreements.

● **New Northeast alternatives?** The federal government is not withdrawing entirely from the railroad business—certainly not in the Northeast, where Conrail, having drawn down the last of an existing $3.3-billion loan authorization, is now thinking about going back to Washington for more. As Conrail itself began to sound less optimistic about its prospects, there were stirrings in Washington about exploring new alternatives.

A study released earlier in the year by Congress examined the possibility of letting other carriers enter the Northeast to compete with Conrail through trackage rights. The House version of the rail deregulation bill included a provision that would clear the way for transfer of Conrail property to other railroads—an option considered in a study of New England railroads prepared for the United States Railway Association. In June, USRA announced it would undertake a new study of its own, using recessionary economic data to assess Conrail's prospects and the alternatives for the Northeast.

USRA survived a threat to its own existence early this year when the Carter Administration pushed a proposal to turn USRA's Conrail-monitoring function over to the Department of Transportation, to turn its handling of the Penn Central bankruptcy settlement over to the Department of Justice, and to disband the agency. This idea found some favor in the Transportation Subcommittee of the House Committee on Interstate and Foreign Commerce, chaired by Rep. James Florio (D.-N.J.), but it was rejected by Florio's Senate counterpart, Howard Cannon (D.-Nev.). The salvation of USRA was another blow against more direct federal involvement in the industry, or so it seemed to those who argued that USRA provided a contraceptive layer preventing the outright nationalization of Conrail.

At any rate, Florio and Cannon were trying to work out a compromise Rock Island labor protection bill and did not care to squabble over USRA. Florio had insisted on including Amtrak's Northeast Corridor and "emerging corridor" legislation with a Rock Island package; Cannon finally agreed to an additional $750 million for completion of the Northeast Corridor Improvement Project, insisting that this was the bottom of the cash barrel for NECIP; but he cut funding for advance equipment-purchase authorization and study of future Amtrak corridors from $105 million to $63 million. Cannon and Florio were also shepherds of the rail deregulation bills through their respective chambers, and they will have much to say about the final shape of the bill.

● **Burdens removed.** As part of a general housecleaning within the federal bureacracy, the Federal Railroad Administration in April presented new freight car and locomotive standards which, among other things, did away with a requirement for periodic freight car inspections that the railroads considered burdensome and unnecessary. Meanwhile, the FRA bowed to pressure and withdrew proposed rules that would have required expensive upgrading of much track to passenger train speeds.

Some not-so-pleasant news from Washington is that coal slurry legislation is once again making its way through Congress. A bill that had been passed by the House Interior Committee came out of the Public Works Committee June 19 on a 25-22 vote. That bill would give slurry pipeline builders the right of eminent domain, but only across railroad property. A floor vote will probably come some time this summer. In the Senate, Dale Bumpers (D.-Ark.) has held hearings on a coal slurry bill, but the Energy Committee has not yet marked up the legislation. ■

A RAILWAY AGE SERVICE PAGE

REVENUES AND EXPENSES OF RAILWAYS

First quarter figures of calendar year 1980

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

		Operating revenues				Operating expenses								Operating ratio		Income after fixed charges		Net Ry. operating income	Net income	
						Maint. of way & structures			Maint. of equipment											
		Freight	Other	Total 1980	Total 1979	Total 1980	Total 1979	Deprec.	Total 1980	Total 1979	Deprec.	Total 1980	Total 1979	1980	1979	1980	1979		1980	1979
Amtrak	3 mos.	—	256,477	256,477	78,087	16,492	16,513	369	81,737	62,371	12,725	265,311	233,115	103.44	298.53	(15,676)	(12,804)	(8,834)	(15,676)	(12,804)
Atchison, Topeka & Santa Fe	3 mos.	498,828	12,589	511,416	404,675	79,616	67,715	3,142	114,634	90,720	18,912	479,782	374,744	93.81	92.60	26,651	26,868	25,619	20,383	22,563
Baltimore & Ohio	3 mos.	222,967	9,183	232,149	200,554	32,400	28,616	1,683	57,934	50,661	6,904	216,616	194,564	93.30	97.01	12,176	5,221	12,174	8,631	4,804
Bessemer & Lake Erie	3 mos.	17,253	1,850	19,103	18,635	4,222	2,641	690	4,953	4,196	1,189	20,294	16,858	106.23	90.46	169	2,285	(982)	379	1,237
Boston & Maine	3 mos.	26,345	1,599	27,944	25,153	7,460	5,162	276	7,791	7,750	603	31,052	26,453	111.12	105.16	(2,524)	(1,018)	(3,048)	(2,727)	(1,221)
Burlington Northern	3 mos.	654,832	25,035	679,867	494,228	94,348	82,745	5,214	144,031	121,865	16,511	601,319	477,944	88.44	96.70	95,999	31,876	59,015	76,445	40,393
Chesapeake & Ohio	3 mos.	198,841	8,747	207,588	171,634	31,240	25,676	1,490	50,626	46,496	3,272	193,327	171,596	93.13	99.97	26,864	7,012	8,502	21,046	6,814
Chicago & North Western	3 mos.	192,820	21,218	214,039	154,236	37,415	37,980	904	54,881	54,798	4,503	210,083	187,197	98.15	121.37	1,922	(37,827)	3,953	1,885	(37,864)
Chicago, Milwaukee, St. Paul & Pac.	3 mos.	93,319	13,130	106,449	93,540	42,954	20,267	1,042	43,135	48,781	4,960	163,724	139,512	153.80	149.14	(38,486)	(43,881)	(57,235)	(40,845)	(43,881)
Clinchfield	3 mos.	19,090	316	19,406	14,774	3,487	3,737	107	3,011	3,567	919	14,905	13,885	76.80	93.97	—	75	4,941	—	—
Colorado & Southern	3 mos.	28,746	853	29,599	19,430	4,605	3,484	58	7,355	5,048	708	26,891	17,097	90.85	87.99	7,321	7,060	4,065	8,679	7,397
Conrail	3 mos.	802,792	163,143	965,935	858,850	147,319	164,983	3,119	280,004	281,540	22,265	1,044,844	996,489	108.16	116.02	(79,867)	(136,899)	(77,901)	(79,019)	136,504)
Delaware & Hudson	3 mos.	28,058	614	28,672	22,881	4,294	3,884	154	8,814	7,580	404	29,404	24,403	102.55	106.64	(1,600)	(2,277)	(737)	(1,600)	(2,277)
Denver & Rio Grande Western	3 mos.	67,545	1,258	68,803	56,248	11,431	10,824	600	11,419	9,497	2,771	59,809	48,431	86.92	86.10	7,758	8,262	6,434	5,164	5,642
Detroit, Toledo & Ironton	3 mos.	19,393	1,173	20,566	22,185	2,380	2,507	175	5,864	5,614	470	19,558	18,700	95.09	84.28	883	3,368	1,020	883	3,368
Duluth, Missabe & Iron Range	3 mos.	15,172	448	15,620	16,268	6,224	4,675	1,066	(141)	2,785	682	15,182	17,364	97.20	106.73	1,440	(728)	(68)	907	(620)
Elgin, Joliet & Eastern	3 mos.	18,551	12,710	31,258	35,721	3,375	4,102	179	5,110	6,624	1,057	26,237	29,182	83.93	81.69	7,154	7,613	1,741	3,874	4,029
Florida East Coast	3 mos.	22,135	751	22,886	18,977	4,791	3,995	223	3,476	2,711	975	17,505	14,398	76.48	75.86	6,181	5,774	2,995	3,795	3,925
Ft. Worth & Denver	3 mos.	30,415	882	31,297	20,714	4,542	2,391	68	6,932	4,585	132	24,199	15,163	77.32	73.20	7,070	5,712	4,480	4,452	4,899
Grand Trunk Western	3 mos.	49,444	3,969	53,413	49,622	5,336	5,655	409	13,779	15,363	1,310	52,393	52,090	98.09	104.97	1,609	(2,229)	1,017	1,609	(2,229)
Illinois Central Gulf	3 mos.	229,325	19,355	248,680	183,667	37,287	33,590	1,674	65,027	58,893	7,030	235,598	201,391	94.73	109.65	6,400	(24,015)	12,697	5,455	(24,387)
Kansas City Southern	3 mos.	62,497	4,491	66,989	50,252	10,826	9,310	626	15,207	11,507	3,213	57,266	44,864	85.48	89.27	9,346	5,035	7,255	6,846	4,238
Long Island	3 mos.	4,962	79,464	84,426	70,354	17,604	17,194	839	19,410	17,365	1,303	89,353	77,676	105.83	110.40	(5,127)	(7,504)	(3,857)	(5,127)	(7,504)
Louisville & Nashville	3 mos.	256,377	7,380	263,757	221,053	41,306	37,313	1,437	67,038	63,999	9,259	253,649	220,761	96.16	99.86	6,554	(10,799)	10,648	6,084	(10,964)
Missouri-Kansas-Texas	3 mos.	46,935	2,925	49,860	36,510	6,340	7,839	276	15,009	10,009	738	47,037	36,892	94.33	101.04	1,244	(2,008)	3,324	1,744	(573)
Missouri Pacific	3 mos.	386,332	12,477	398,809	324,154	46,560	50,479	2,428	94,476	76,526	14,505	348,541	284,216	87.39	87.67	42,298	32,886	39,558	29,226	22,455
Norfolk & Western	3 mos.	355,130	12,012	367,142	323,929	48,120	40,653	3,280	73,072	58,505	13,302	296,365	255,445	80.72	78.85	78,080	69,777	42,351	48,383	46,157
Pittsburgh & Lake Erie	3 mos.	17,338	1,581	18,920	15,261	2,788	2,660	31	1,090	2,584	458	14,536	14,531	76.83	95.22	1,270	690	3,980	863	797
St. Louis-San Francisco	3 mos.	124,968	4,032	129,000	101,125	20,388	16,428	876	28,497	24,360	3,512	114,782	94,275	88.97	93.22	11,185	2,941	11,836	8,447	2,139
St. Louis Southwestern	3 mos.	67,195	861	68,056	62,161	8,986	10,056	352	9,227	9,529	6,154	56,564	49,329	83.11	79.35	10,039	13,467	8,949	7,494	13,045
Seaboard Coast Line	3 mos.	292,652	9,519	302,172	246,901	48,045	41,661	2,229	69,966	57,999	8,587	273,633	219,575	90.55	88.93	40,887	20,481	26,268	38,527	20,411
Soo Line	3 mos.	78,583	1,592	80,175	58,471	10,062	9,445	320	15,924	13,769	1,960	63,404	55,166	79.08	94.34	16,771	3,959	11,254	10,987	2,145
Southern	3 mos.	390,694	10,292	400,985	337,711	64,394	61,022	5,199	73,619	64,428	18,299	325,395	276,610	81.14	81.90	74,757	48,800	53,261	51,214	35,836
Southern Pacific	3 mos.	481,084	16,342	497,426	441,780	62,623	67,784	4,792	132,429	120,056	19,574	502,299	424,569	100.97	96.10	(9,449)	22,523	(1,727)	(6,687)	22,041
Union Pacific	3 mos.	468,251	9,231	477,482	400,842	77,535	57,662	2,743	92,769	78,518	22,505	417,875	335,396	87.51	83.67	47,967	56,663	47,029	35,423	39,034
Western Maryland	3 mos.	18,152	1,393	19,545	17,031	4,052	2,765	144	3,381	3,581	1,108	18,813	15,062	96.25	88.43	1,028	2,555	256	545	1,729
Western Pacific	3 mos.	42,309	672	42,981	36,586	5,025	5,291	86	9,692	8,627	1,702	41,944	35,479	97.58	96.97	816	638	920	650	—

Market

CARLOADINGS

Loadings of revenue freight in the week ended June 21 totaled 448,567 cars, according to the Association of American Railroads. This was a decrease of 54,312 cars, or 10.8%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended June 21 are estimated at 18.3 billion, a decrease of 4.2% below the corresponding week of 1979.

REVENUE FREIGHT CARLOADINGS

Commodity	**June 21 week**	**June 14 week**
Grain	29,318	27,461
Farm products	4,692	4,568
Metallic ores	35,017	33,245
Coal	120,431	122,945
Crushed stone, gravel & sand	15,002	15,853
Nonmetallic minerals	17,261	16,273
Grain mill products	16,358	16,982
Food and kindred products	17,976	18,027
Primary forest products	20,697	20,794
Lumber & wood products (except furniture)	9,105	8,598
Pulp, paper & allied products	20,582	20,676
Chemicals & allied products	25,077	25,597
Petroleum products	5,377	5,579
Stone, clay & glass products	14,736	15,347
Coke	4,754	4,730
Metals & products	14,123	14,845
Motor vehicles & equipment	15,850	16,128
Waste & scrap materials	10,582	11,257
Forwarder & shipping assn. traffic	10,336	9,919
All other carloads	41,097	41,256
LCL traffic	196	184
Total cars loaded	**448,567**	**450,284**
Cumulative total,	1980	1979
25 weeks	**11,033,479**	**11,341,481**
Estimated revenue ton-miles (billions) 25 weeks	**444.8**	**428.5**

PIGGYBACK LOADINGS

U.S. pigggyback loadings for the week ended June 14 totaled 31,740 cars (15.1% below the corresponding 1979 week) and 58,758 trailers or containers (down 10.1% from 1979). Cumulative volume for the first 24 weeks of 1980 is 785,046 cars (down 8.1% from 1979) and 1,425,714 trailers or containers (down 5.6% from 1979).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the ten-day period ended May 31 totaled 8.3 million tons (up 8.3% from 1979). Cars totaled 117,641 (up 3.8% from 1979). Cumulative loadings for 1979 were up to 107.9 million tons (up 6.9% from 1979).

- *Amtrak.*—Directors approved expenditure of $367,000 to expand and remodel the Amtrak station in Austin, Tex. The project includes relocation of Missouri Pacific freight operations to another site and renovation of the existing building for passenger use.

- *Bay Area Rapid Transit District.*—Awarded a five-year, $4-million contract to National Electric Coil unit of the McGraw-Edison Service Group for maintenance and repair of electric traction motors.

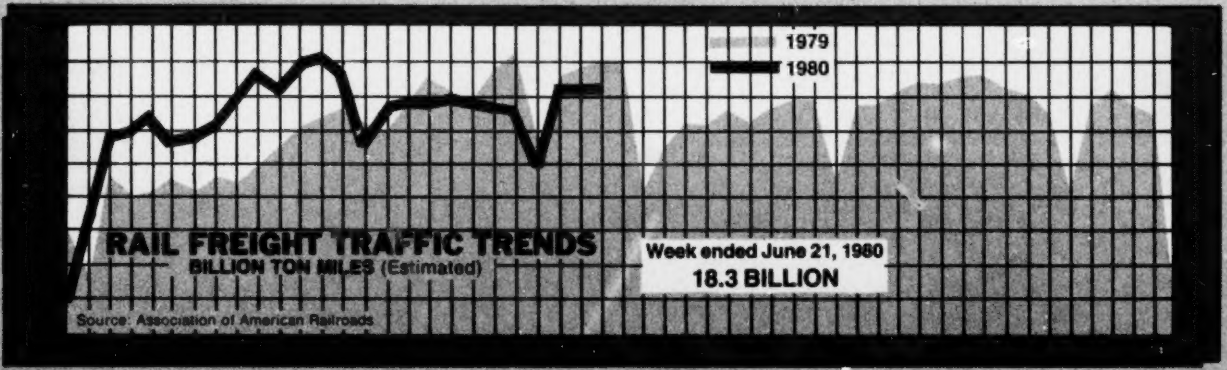
- *Chessie.*—Will begin construction this month of a $33-million iron ore transfer and ground storage facility at Toledo, Ohio. The project is being financed by industrial revenue bonds issued by the Toledo-Lucas County Port Authority and guaranteed by the Chesapeake & Ohio. The facility will be owned and operated by a C&O subsidiary and served by C&O, B&O, and Conrail. It will be capable of loading railcars from dockside or from ground storage at the rate of 4,000 tons per hour.

- *Metropolitan Atlanta Rapid Transit Authority.*—Has budgeted $347.3 million for capital outlays in fiscal 1981, the bulk of which, $320.7 million, is earmarked for rapid rail construction.

- *New Jersey Department of Transportation.*—Bombardier-MLW is the apparent low qualifying bidder on 57 push-pull cars to be used on NJDOT's Raritan Valley commuter line, with an option for an additional 50 cars for service on the New York & Long Branch. Bombardier-MLW's bid for the 57 cars was $43,027,660. NJDOT said Budd submitted a bid of $37,991,961, but with exceptions to the specifications; that bid was disqualified. Budd subsequently withdrew the exceptions, according to NJDOT, and indicated it would file suit to try to prevent award of a contract to Bombardier-MLW. The bid of a third company, Vickers Canada Inc., was rejected immediately for failing to meet NJDOT requirements.

- *San Diego Metropolitan Transit Board.*—A $1-million contract has been awarded to WABCO's Union Switch & Signal Division for train control and highway grade crossing equipment for MTB's new light rail transit system (*RA*, June 9, p. 34). Union Switch will supply an absolute block signal system plus 27 grade crossing warning installations including automatic gates and flashing lights. The contract was awarded by Fishback and Moore, Inc.

- *Seattle Tacoma Airport.*—A contract worth $1.375 million has been awarded to Nissho-Iwai (representing Kawasaki of Japan) and Westinghouse Electric for the supply of 12 people-mover vehicles. Kawasaki will manufacture the bodies with final assembly to be done by Westinghouse.



Source: Association of American Railroads

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8th annual Directory of Contract Car Repair Facilities

July 28, 1980

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Inside

LUTHER S. MILLER

BY ANY OTHER NAME. . .

An astonishing change takes place when the dinner-table (or sundeck or barroom) conversation turns to railroads. People who otherwise behave like perfectly sensible and well informed human beings suddenly get a dangerous gleam in their eyes and begin to babble.

This is because everyone is an expert on railroads. The requirement for being an expert is any one of the following: (1) The air conditioning broke down on your commuter car last night; (2) an elderly aunt had a bad trip on the *Metroliner* last week; (3) an acquaintance recently rode the *Chopin Express* from Warsaw to Vienna and had a wonderful time. Anyone who has experienced all of the above in a 12-month period is in the master class and is qualified to write to his congressman and demand to know why we can't have fine trains like they have in Europe.

It is an innocent enough pastime, this all-American game of deriding the railroads, and it does no great harm to anyone as long as it remains an indoor sport.

But when the "expert" is a respectable journalist with space to fill in respectable papers, and when he tries to peddle his snake oil remedy for "our deteriorating railroads" in a package of prose so redolent of red herrings that it hardly smells like snake oil any more—that's a different matter.

Such an expert is Henry Fairlie, who writes a widely admired weekly column that is published in *The Washington Post* and syndicated to other papers. A recent Fairlie column, passionately advocating the nationalization of American railroads, appeared under the headline, "Sick U.S. Railroads Need European Remedy."

. . .IT'S STILL SNAKE OIL

"The story of the neglect and continuing decline of American railroads," wrote Fairlie, "is a subject for outrage."

Now had Fairlie been outraged by the neglect and decline not of "American railroads" but of the small part of their business that is represented by passenger trains, he might have had a point. The passenger train *has* been neglected, first by the traveling public and then by the railroads, and it has declined.

But while the malady Fairlie was diagnosing clearly had to do only with passenger trains (he was distraught, for example, by the discovery that only two Amtrak trains a day now pass through Cheyenne, Wyo.), he would smear his nationalization nostrum over the entire system.

If Fairlie was aware that our passenger trains have already been nationalized and that the experiment has not been a howling success, he avoided mentioning the fact. If he knew that for every 100 "neglected" passenger trains that ply the rails, several thousand freight trains are efficiently and profitably going about their business, and paying taxes rather than consuming them, he did not mention it.

With one misty eye on the nearly deserted Cheyenne station, and a happier one on the bustling stations of Europe, he reached, not surprisingly, a cockeyed conclusion: "The case for restoring and reinvigorating the railroads—bringing them openly into public ownership and supporting them openly with adequate subsidies—has never been stronger than it is today."

The fact that responsible reporters are capable of writing such nonsense, and that responsible papers will print it, is a measure of the distance we still have to go before we get the railroad story across to the public, and to those who seek to inform that public.

RAILWAY AGE

July 28, 1980

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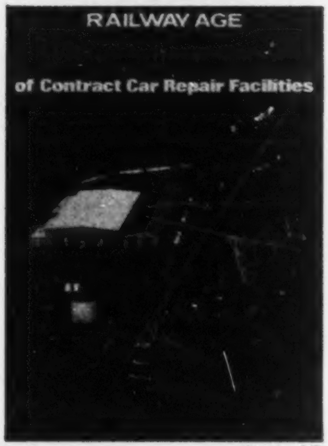
Intermodal: Evolution—and revolution
At least 10 new intermodal railcars are either on the road or on the drawing board. So far, Santa Fe's Ten-Pack is the most thoroughly tested and the most promising. RoadRailer, the most revolutionary, starts revenue tests in August.

32 KCLX 7086 passes its 480,000-mile checkup
Representatives of the carbuilder and most component suppliers were on hand for the annual teardown and inspection of the Kansas City Power & Light unit train coal car—and most of them were happy with the results.

37 8th annual Contract Car Repair Directory

78 The export coal boom: How long? How strong?
The U.S. coal industry expects export shipments to increase 21% this year, to 55 million tons; about half of the increase will be steam coal. But railroads want long-term commitments before they invest heavily in expanded facilities.

83 C&NW: Flying high as rival roads founder
Bad news for the Milwaukee Road and the Rock Island has proved to be good news for the Chicago & North Western, which, says President James R. Wolfe, is turning itself into "one hell of a strong midwestern railroad."



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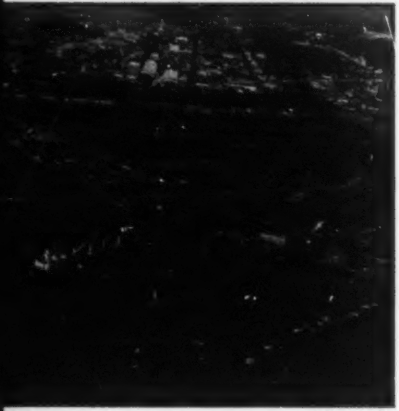

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COVER: Fish-eye lens view of Santa Fe's Ten-Pack intermodal cars was taken by Santa Fe system photographer Dale R. Thompson.

Market

CARLOADINGS

Loadings of revenue freight in the week ended July 5 totaled 345,206 cars, according to the Association of American Railroads. This was a decrease of 59,894 cars, or 14.8%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended July 5 are estimated at 14.4 billion, a decrease of 7.4% below the corresponding week of 1979. Both weeks included the Independence Day Holiday and the beginning of the coal miners' holiday.

REVENUE FREIGHT CARLOADINGS

Commodity	**July 5 week**	**June 28 week**
Grain	30,732	30,291
Farm products	3,978	4,755
Metallic ores	38,658	33,939
Coal	69,270	117,333
Crushed stone, gravel & sand	12,293	14,986
Nonmetallic minerals	14,544	16,869
Grain mill products	13,878	17,215
Food and kindred products	14,964	18,689
Primary forest products	15,237	20,362
Lumber & wood products (except furniture)	6,700	9,233
Pulp, paper & allied products	17,743	21,897
Chemicals & allied products	21,257	24,624
Petroleum products	4,463	5,420
Stone, clay & glass products	13,058	14,941
Coke	3,561	4,162
Metals & products	11,853	15,035
Motor vehicles & equipment	12,799	15,199
Waste & scrap materials	7,902	10,243
Forwarder & shipping assn. traffic	8,780	10,993
All other carloads	33,374	43,185
LCL traffic	162	200
Total cars loaded	**345,206**	**449,471**
Cumulative total,	1980	1979
27 weeks	**11,828,156**	**12,257,268**
Estimated revenue ton-miles (billions), 27 weeks	**477.6**	**462.0**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended June 28 totaled 32,745 cars (19.7% below the corresponding 1979 week) and 60,983 trailers or containers (down 15.9% from 1979). Cumulative volume for the first 26 weeks of 1980 is 849,503 (down 9.1% from 1979) and 1,545,166 trailers or containers (down 6.4% from 1979).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended June 7 totaled 5.7 million tons (up 12.5% from 1979). Cars loaded totaled 80,497 (up 4.8% from 1979). Cumulative loadings for 1980 were up to 113.5 million tons (up 7.1% from 1979).

- *CP Rail.*—Ordered 500 100-ton, 4,550-cubic-foot-capacity covered hopper cars from Hawker Siddeley Canada Limited at a cost of approximately $27 million. The cars, scheduled for delivery between December 1980 and February 1981, will be used primarily for the transport of potash. The order will bring CP Rail's covered hopper car fleet to more than 6,900 cars.

- *Metropolitan Atlanta Rapid Transit Authority.*—General Railway Signal is the apparent low bidder on a $6.3-million extension of the MARTA system. The bid covers installation of automatic train control on a three-station extension of the north-south line. GRS, MARTA's prime signaling contractor, was originally awarded a $28.8-million contract for signaling the first phase of the system in 1976.

- *Southern.*—Awarded a $3.8-million contract to GTE Lenkurt for engineering, supplying, and installing microwave radio equipment and antenna systems at 49 sites in Alabama, Georgia, and Mississippi. The contract is the second phase of an ongoing project to modernize the microwave network. Phase one, a $1.4-million contract for 23 sites in Georgia and South Carolina, was completed by GTE Lenkurt in December 1979.

- *Freight cars and locomotives.*—The following report has been received from the AAR and the ARCI:

DELIVERED

	May		**April**	**Five months**	
	1980	**1979**	**1980**	**1980**	**1979**
Built new by carbuilders	7,484	7,281	7,546	38,039	33,838
Built new in RR shops	589	423	347	2,398	2,156
Built new—total	8,073	7,704	7,893	40,437	35,994
Rebuilt	188	103	181	795	322
TOTAL DELIVERED	**8,261**	**7,807**	**8,074**	**41,232**	**36,316**
Locomotives (new and rebuilt)	167	160	149	855	694

ORDERED

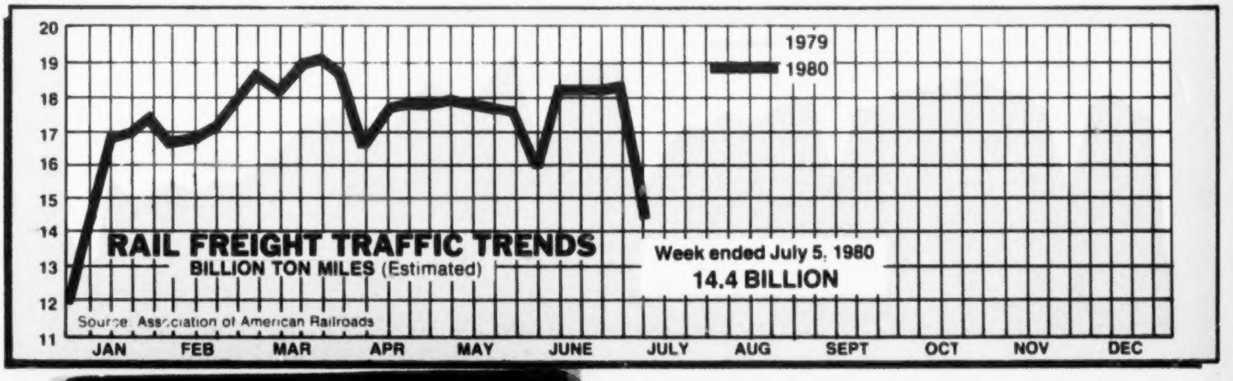
	May		**April**	**Five months**	
	1980	**1979**	**1980**	**1980**	**1979**
To be built new by carbuilders	3,882	13,288	2,851	19,264	64,629
To be built new in RR shops	1,862	413	2,650	4,512	913
To be built new—total	5,744	13,701	5,501	23,776	65,542
To be rebuilt	0	87	36	869	278
TOTAL ORDERED	**5,744**	**13,788**	**5,537**	**24,645**	**65,820**

ON ORDER AND UNDELIVERED

	June 1		**May 1**	**Average backlog**	
	1980	**1979**	**1980**	**1980**	**1979**
To be built new by carbuilders	78,911	120,243	84,947	98,708	108,445
To be built new in RR shops	8,366	5,068	7,093	5,767	5,725
To be built new—total	87,277	125,311	91,940	104,475	114,170
To be rebuilt	174	43	362*	572	133
TOTAL ON ORDER	**87,451****	**125,354**	**92,302***	**105,047**	**114,303**
Locomotives (new and rebuilt)	953	1,087	1,083	1,146	1,180

* Revised Figures

** Due to revisions and cancellations of some orders, the backlog has been reduced by 2,334 cars.



RAIL FREIGHT TRAFFIC TRENDS
BILLION TON MILES (Estimated)

Week ended July 5, 1980
14.4 BILLION

Source: Association of American Railroads

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Cleveland: Renovating the rail transit system

August 11, 1980

RAILWAY AGE

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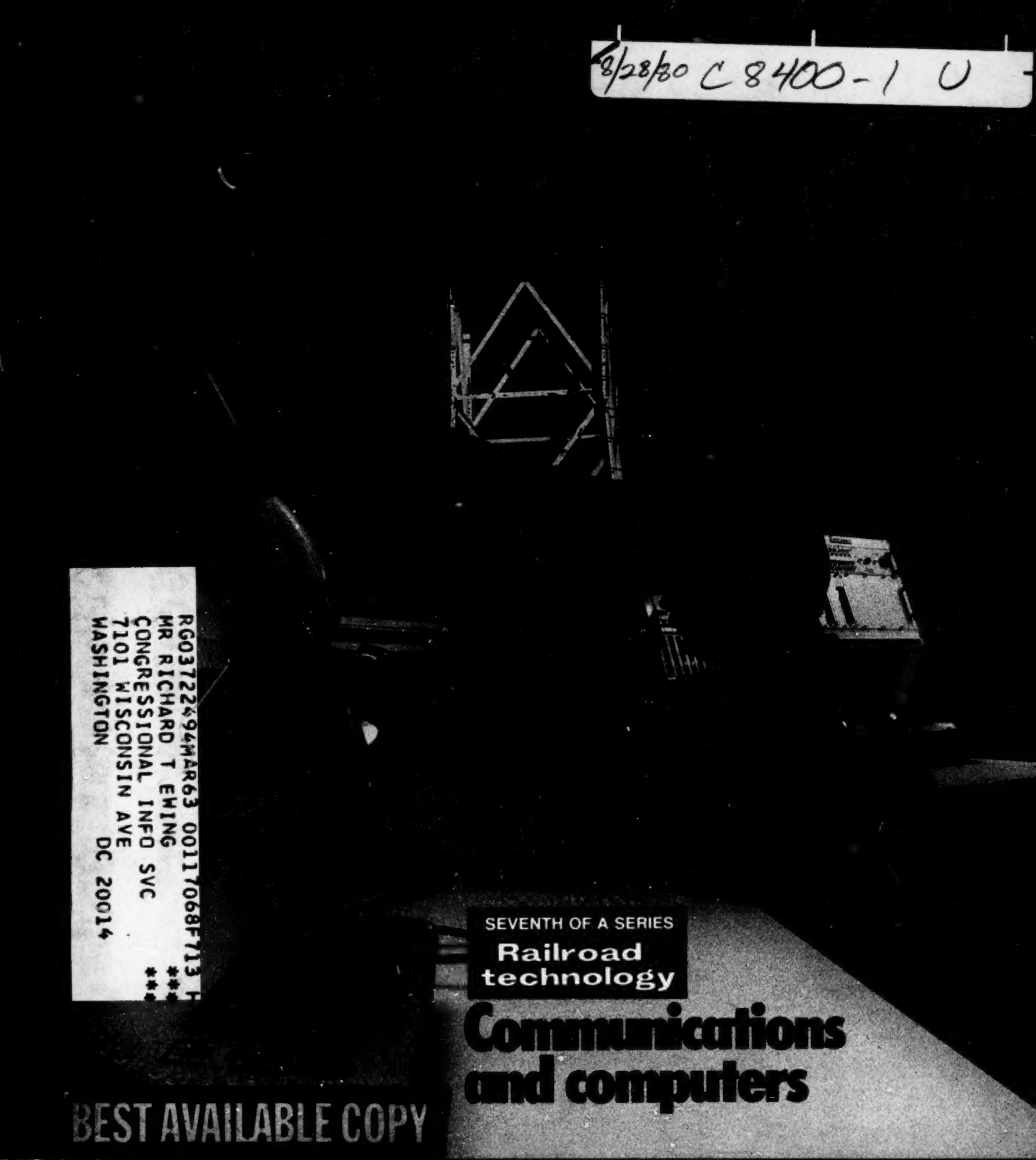

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SEVENTH OF A SERIES

Railroad technology

Communications and computers

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RAILWAY AGE

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August 11, 1980 • Vol. 181, No. 15

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Inside

LUTHER S. MILLER

COMMUNICATING

About 10 years ago the Association of American Railroads published a list of 112 key dates in American railroading, and among them were these:

1851, September 22—The first recorded use of telegraph for train dispatching took place at Turner (now Harriman), N.Y.

1865—The block signal system, through telegraphic communication, was introduced by Ashbel Welch.

1877, May 21—Tests at Altoona, Pa., marked the first use of telephone communication for railroad purposes.

1914—First tests were begun looking toward the use of radio in railroad communications.

1937, March—A two-way train telephone communication system was inaugurated between Albion, Pa., and North Bessemer Yard, Pittsburgh.

1945, May 17—The Federal Communications Commission allocated radio channels for exclusive railroad use, and the first construction permit was granted on Feb. 27, 1946.

1956, March—The first large-scale electronic data processing computer was introduced into railroad operations, after years of testing and experimentation with varied types of automatic office equipment. Stockholder dividend checks were processed first, and on March 12, 1957, company payroll checks were printed.

1962, October 26—Railroad train information was first transmitted instantaneously from St. Louis, Mo., to Dallas, Tex., via Telstar. Wallace Coleman thus became the first railroader to use a satellite communication system.

1967, October—Railroads announced plans for an automatic car identification (aci) system to make possible prompt location of freight cars. A 1970 start-up was proposed in conjunction with TeleRail Automated Information Network (TRAIN), with the central computer to be located at the Association of American Railroads' headquarters in Washington.

Since the AAR developed that list, a whole new communications terminologoy has been developing. "Fibre optics" and "solar power" have entered the railroad lexicon. And since EDP first went to work on the railroads a mere quarter of a century ago, computer technology has leaped forward at a dazzling pace. Southern Pacific's "Pete" Germany recently observed that his pocket calculator can do all of the computations of which SP's first big computer, the IBM 1400, was capable.

Just how far the railroads have come in communications—and where they're headed—is the subject of Associate Editor John Armstrong's cover story in this issue (p. 16).

WRITING FOR "REAL RAILROADERS"

John Armstrong is a man of many parts, as *The Washington Post Magazine* recently pointed out. The July 27 edition of that magazine, in an article about hobbyists of note, published a color photograph of Armstrong taken in his Silver Spring, Md., basement—a room that *The Post* called "the model train buff's wonderland." After describing Armstrong's 1,100-foot, 200-car model railroad, *The Post* went on to say: "Unlike most hobbyists, Armstrong has managed to parlay his play into a living. After some 25 years as a mechanical engineer, he now serves as the Washington editor of Railway Age magazine, a journal for real railroaders." It is for real railroaders that John wrote this issue's piece on communications, though our guess is that any railroader, main-line or model, will find it rewarding reading.

RAILWAY AGE

August 11, 1980

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FEATURES

Cover article, page 16

16 Railroad technology, Part VII
Communications and computers
From small and simple beginnings in the 19th century, railroad communications has become an enormously complex business, and costly (about $1.4 billion a year). This article explores the state of the art in a time of furiously paced change.

26 Computerized car scheduling
Missouri Pacific is finding that car scheduling can be a tool for providing a very high level of service—or, in recessionary times, a tool for providing a satisfactory level of service at a substantially lower cost.

32 Grade crossing safety: Still a long way to go
Crossing fatalities have dropped dramatically in the last decade, due partly to heavy federal investment in crossing protection, but future funding is uncertain. Meantime, greater coordination among the parties involved is essential.

41 C&S/RSS Exhibit—a preview

C&S/RSS Exhibit—a preview

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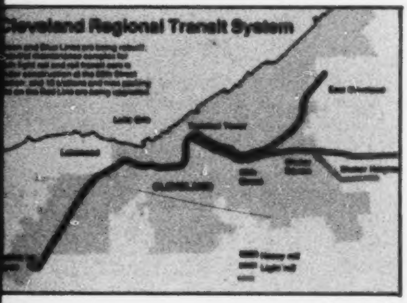
46 Cleveland: Renovating the rail transit system
A key part of Cleveland's $270-million program involves rebuilding and reequipping the Shaker Heights trolley line. Says RTA Operations Manager Thompson Nooner: "It's the equivalent of turning a country road into an interstate highway."



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COVER: TRAIN II, at AAR's Technical Control Center, Washington, D.C., was photographed by Ray Cassidy; microwave antenna photo from Burlington Northern.

A RAILWAY AGE SERVICE PAGE

QUARTERLY INDEXES

Railroad charge-out prices and wage rates (Average 1967 = 100)

(Charge-out indexes reflect the original purchase price of fuel, material, and supplies charged to railroad operating expense accounts on the first day of the quarter. The indexes are developed from quarterly spot price indexes by providing appropriate lags between time of purchase and time charged to operating expense accounts. Wage rate indexes are based on average straight time hourly rates for the first month of the quarter; wage supplements indexes are based on the average per straight time hour paid for payroll taxes, health and welfare benefits, vacations, holidays, and other allowances.)

District and group	Apr. 1977	July 1977	Oct. 1977	Jan. 1978[a]	Apr. 1978[a]	July 1978[a]	Oct. 1978[a]	Jan. 1979	Apr. 1979	July 1979	Oct. 1979	Jan. 1980	Apr. 1980
UNITED STATES:													
Fuel	381.1	395.3	399.0	403.1	405.9	405.0	407.2	419.7	469.6	603.2	739.7	818.1	886.5
Other materials & supplies	213.8	216.8	221.3	224.4	227.0	230.2	233.4	239.1	245.7	250.4	260.2	268.3	283.6
All material incl. fuel	260.6	266.5	270.9	274.3	277.0	279.2	282.1	289.8	307.5	345.6	387.9	414.4	443.5
Wage rates	220.0	231.3	232.8	240.8	248.2	254.8	259.7	267.5	267.5	285.6	285.6	294.0	294.0
Material prices & wages (and fuel)	232.7	242.3	244.7	251.3	257.2	262.4	266.7	274.5	280.0	304.4	317.6	331.7	340.8
Wages & supplements	243.1	253.6	254.7	267.2	272.9	278.1	281.9	294.1	294.1	311.4	311.4	321.6	321.6
Material prices, wages & supplements (excl. fuel)	237.4	246.4	248.2	259.9	263.9	268.8	272.4	283.4	284.7	299.5	301.4	311.2	314.2
Material prices, wages & supplements (incl. fuel)	247.9	257.1	259.2	269.2	274.0	278.4	282.0	292.9	297.8	320.8	332.4	347.1	355.1
EASTERN DISTRICT:													
Fuel	386.7	405.0	407.6	411.1	416.3	413.4	413.1	422.1	476.3	580.1	713.7	795.9	858.9
Other materials & supplies	208.5	210.2	213.4	216.2	217.2	221.5	226.0	230.2	239.6	243.0	252.9	260.8	271.4
All material incl. fuel	257.4	263.5	266.4	269.6	271.6	274.1	277.4	282.9	304.0	333.1	374.7	402.0	426.1
Wage rates	220.6	229.9	232.8	242.6	249.5	257.7	262.6	270.4	270.4	288.5	288.5	297.0	297.0
Material prices & wages (and fuel)	230.4	238.9	241.8	249.8	255.4	262.1	266.6	273.7	279.4	300.4	311.5	325.0	331.5
Wages & supplements	243.9	252.8	255.1	270.3	275.8	282.1	285.9	298.2	298.2	315.7	315.7	326.7	326.7
Material prices, wages & supplements (excl. fuel)	238.2	246.0	248.3	261.5	266.3	272.3	276.2	287.2	288.7	303.9	305.5	316.0	317.7
Material prices, wages & supplements (incl. fuel)	247.0	255.3	257.7	270.1	274.8	280.2	283.9	294.6	299.6	319.8	329.4	344.2	349.9
SOUTHERN DISTRICT:													
Fuel	354.3	369.3	372.2	375.6	375.3	373.0	374.7	389.1	428.4	509.3	622.7	695.7	767.0
Other materials & supplies	209.9	213.3	217.9	220.0	223.3	226.1	229.5	234.7	240.4	246.3	254.0	262.4	275.3
All material incl. fuel	248.6	255.0	259.2	261.6	263.9	265.4	268.4	276.0	290.7	316.8	353.2	378.9	407.6
Wage rates	219.4	233.6	233.2	239.6	248.9	255.5	260.4	268.3	268.3	286.5	286.5	295.0	295.0
Material prices & wages (and fuel)	229.4	240.9	242.1	247.1	254.0	258.9	263.1	270.9	275.9	296.8	309.2	323.6	333.4
Wages & supplements	243.5	256.3	255.9	265.9	273.2	278.5	282.4	294.3	294.3	311.8	311.8	324.3	324.3
Material prices, wages & supplements (excl. fuel)	236.2	247.0	247.7	256.0	262.4	267.2	271.0	281.4	282.7	297.7	299.3	310.9	313.7
Material prices, wages & supplements (incl. fuel)	245.0	255.9	256.9	264.6	270.4	274.6	278.2	288.8	293.2	313.3	324.3	340.7	349.4
WESTERN DISTRICT:													
Fuel	387.7	399.6	404.1	409.2	411.5	412.1	416.0	429.1	480.8	650.1	796.6	874.6	944.0
Other materials & supplies	218.5	221.9	227.2	230.8	233.7	236.5	239.2	244.7	251.6	256.3	266.8	274.8	293.3
All material incl. fuel	268.3	274.0	279.3	283.4	286.2	288.5	291.7	299.3	317.9	364.7	410.3	436.5	468.4
Wage rates	220.0	231.9	232.8	240.3	247.1	253.0	257.9	265.8	265.8	283.7	283.7	292.2	292.2
Material prices & wages (and fuel)	236.3	246.1	248.5	254.8	260.3	265.0	269.3	277.1	283.4	311.0	326.4	340.8	351.6
Wages & supplements	243.7	253.7	254.4	265.9	271.2	257.8	279.6	291.7	291.7	309.0	309.0	318.6	318.6
Material prices, wages & supplements (excl. fuel)	237.6	246.9	248.6	258.4	263.2	267.4	271.0	281.6	283.1	297.7	300.0	309.2	313.2
Material prices, wages & supplements (incl. fuel)	250.4	259.7	261.8	271.1	275.7	279.6	283.2	294.0	299.5	325.5	339.1	353.6	363.1

a—Wage rates in 1978 reflect the effects of retroactive pay increases applicable to time worked in 1978 but paid in 1979.

Spot prices of railroad fuel, material, and supplies (Average 1967 = 100)

(Spot price indexes reflect the price on the first day of the respective month of 65 major items of railroad purchases reported by 10 major railroads representing about two-thirds of total purchases by all Class I railroads.)

District and group	Apr. 1977	July 1977	Oct. 1977	Jan. 1978	Apr. 1978	July 1978	Oct. 1978	Jan. 1979	Apr. 1979	July 1979	Oct 1979	Jan. 1980	Apr. 1980
UNITED STATES:													
Fuel (diesel oil)	389.9	398.1	399.7	405.0	406.2	404.4	408.8	425.4	491.6	659.1	780.2	837.3	911.0
Forest products	225.2	229.4	234.0	240.0	240.9	250.8	258.6	264.5	272.3	286.2	297.2	321.6	333.9
Iron & steel prod.	224.1	230.1	233.1	235.4	242.5	245.8	252.4	263.0	268.7	277.5	286.9	305.3	310.0
Miscellaneous prod.	212.1	215.7	218.2	220.1	221.3	222.5	227.0	231.1	234.3	243.7	250.4	261.1	275.0
Total, excl. fuel	216.8	221.3	224.4	227.0	230.2	233.4	239.1	245.7	250.4	260.2	268.3	283.6	293.8
Total, incl. fuel	265.1	270.7	273.4	276.5	279.5	281.5	286.8	296.3	316.9	367.3	404.7	430.9	457.6
EASTERN DISTRICT:													
Fuel (diesel oil)	397.3	406.9	407.0	413.4	417.9	411.1	414.0	426.0	501.4	619.6	760.9	813.3	881.7
Forest products	212.4	217.9	220.9	224.8	225.4	234.2	237.5	251.0	254.6	267.0	274.8	280.9	282.3
Iron & steel prod.	213.5	218.8	221.6	221.6	229.9	234.1	240.1	251.6	257.1	266.0	274.0	290.6	294.0
Miscellaneous prod.	212.8	213.1	215.6	216.8	218.4	222.0	224.4	231.0	232.4	242.8	250.6	257.4	265.9
Total, excl. fuel	210.2	213.4	216.2	217.2	221.5	226.0	230.2	239.6	243.0	252.9	260.8	271.4	276.7
Total, incl. fuel	261.5	266.9	268.4	270.9	275.2	277.0	280.8	291.2	313.0	350.9	393.0	414.4	436.0
SOUTHERN DISTRICT:													
Fuel (diesel oil)	364.2	371.9	372.2	377.3	374.4	372.4	375.8	395.9	444.8	541.6	663.4	711.8	794.4
Forest products	227.4	232.2	230.4	240.2	242.0	255.4	258.7	266.5	276.9	288.4	299.7	309.7	315.8
Iron & steel prod.	226.2	232.6	236.2	238.0	245.5	247.3	254.3	263.1	369.3	277.4	288.0	304.5	308.5
Miscellaneous prod.	205.9	209.0	211.1	213.7	212.1	213.5	217.8	219.9	224.0	230.2	235.9	247.1	261.7
Total, excl. fuel	213.3	217.9	220.0	223.3	226.1	229.5	234.7	240.4	246.3	254.0	262.4	275.3	284.1
Total, incl. fuel	253.7	259.3	260.7	264.6	265.8	267.8	272.4	282.0	299.4	331.3	370.2	392.7	421.2
WESTERN DISTRICT:													
Fuel (diesel oil)	395.4	401.8	405.4	410.5	412.1	412.1	417.9	434.9	503.6	723.0	833.2	895.5	968.4
Forest products	237.1	240.7	250.2	254.8	255.8	265.2	259.9	279.0	288.0	304.2	317.5	357.2	378.6
Iron & steel prod.	221.7	227.6	230.6	233.7	238.9	242.8	250.1	260.4	265.3	274.9	283.4	304.9	310.4
Miscellaneous prod.	215.9	220.9	223.8	226.2	227.9	228.4	234.9	236.9	240.8	250.5	257.3	269.5	285.8
Total, excl. fuel	221.9	227.2	230.8	233.7	236.5	239.2	244.7	251.6	256.3	266.8	274.8	293.3	306.6
Total, incl. fuel	273.1	278.6	282.5	286.0	288.7	290.5	296.5	305.9	327.3	391.5	426.0	456.2	484.9

Note: Based on prices as of first day of months shown.

Source: Economics and Finance Dept., AAR

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Market

CARLOADINGS

Loadings of revenue freight in the week ended July 19 totaled 404,057 cars, according to the Association of American Railroads. This was a decrease of 58,725 cars, or 12.7%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended July 19 are estimated at 16.6 billion, a decrease of 6.2% below the corresponding week of 1979.

REVENUE FREIGHT CARLOADINGS

Commodity	July 19 week	July 12 week
Grain	32,645	36,437
Farm products	4,397	4,689
Metallic ores	29,419	30,598
Coal	97,316	70,613
Crushed stone, gravel & sand	14,281	14,825
Nonmetallic minerals	16,234	17,009
Grain mill products	16,869	15,468
Food and Kindred products	17,239	16,755
Primary forest products	19,955	18,965
Lumber & wood products (except furniture)	8,506	7,342
Pulp, paper & allied products	19,106	16,995
Chemicals & allied products	23,465	24,208
Petroleum products	5,348	5,503
Stone, clay & glass products	14,787	14,739
Coke	4,098	3,871
Metals & products	12,407	12,118
Motor vehicles & equipment	11,588	12,575
Waste & scrap materials	9,570	9,116
Forwarder & shipping assn. traffic	9,387	8,683
All other carloads	37,298	34,912
LCL traffic	142	149
Total cars loaded	**404,057**	**375,570**
Cumulative total	**1980**	**1979**
29 weeks	**12,607,852**	**13,169,581**
Estimated revenue ton-miles		
(billions), 29 weeks	**510.0**	**496.8**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended July 12 totaled 27,786 cars (20.4% below the corresponding 1979 week) and 49,555 trailers or containers (down 19.5% from 1979). Cumulative volume for the first 28 weeks of 1980 is 903,804 cars (down 9.8% from 1979) and 1,643,613 trailers or containers (down 7.2% frm 1979).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended June 21 totaled 5.6 million tons (down 0.8% from 1979). Cars loaded totaled 81,958 (down 1.8% from 1979). Cumulative loadings for 1980 were up to 124.8 million tons (up 6.9% from 1979).

- *Alco Power, Inc.*—Will supply 72 Alco Power Boss Model 16-251F diesel engines to a French consortium, Francorail-MTE, that is building diesel-electric locomotives for the Iraq Republic Railways Organization. Societe MTE of Paris represented the consortium in negotiating the $22-million agreement with the Auburn, N.Y., firm.

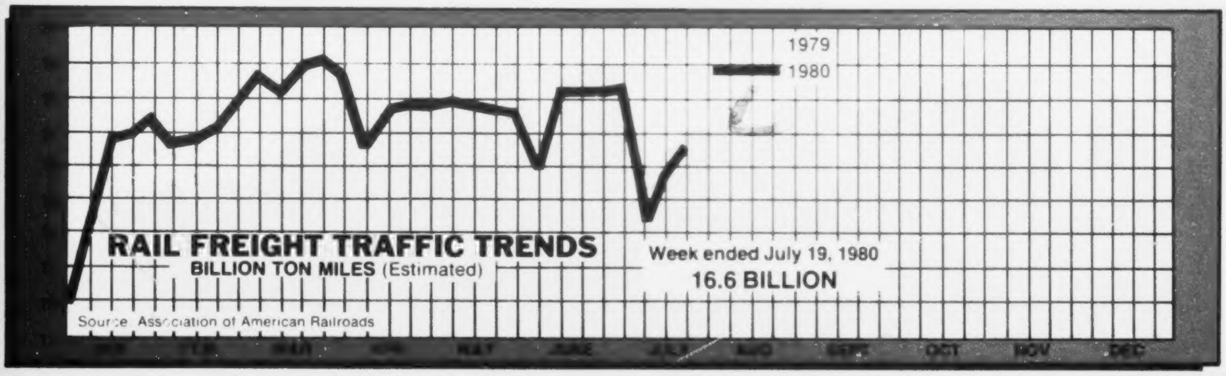
- *Burlington Northern.*—Directors approved acquisition of $128-million worth of rolling stock as part of BN's 1981 capital program. Orders placed thus far include 35 2,300-hp and five 2,000-hp diesel-electric units from EMD, 15 3,000-hp units from GE, 1,000 jumbo covered hopper cars and 200 woodchip cars from FMC, 100 taconite cars from Paccar, 50 tank cars (for handling diesel fuel) from ACF, and 42 cabooses from Paccar's International Car subsidiary. In addition, BN will lease 150 100-ton bulkhead flatcars from Trailer Train and 20 pressure-differential covered hopper cars from North American Car. Yet to be announced are the builders for 300 dry vans for piggyback service and 100 enclosed trilevel auto racks.

- *CP Rail.*—Announced a 10-year, $200-million program to upgrade its locomotive fleet. Approximately $152 million will be invested in 160 new diesel-electric units, and $48 million will be spent to modify more than 400 existing units. The railroad will retire 300 first generation diesels.

- *London Transport.*—Awarded a contract to the Urban Transportation Development Corp. (UTDC) of Toronto, Ont., for development of technical designs for a steerable truck for use on London Underground trains. This contract, valued at $200,000, is the first phase of a three-phase London Transport program to reduce noise and wheel/rail problems. Later phases will include prototype testing and design work for production trucks.

- *New Jersey Department of Transportation.*—Awarded a $43-million contract to Bombardier-MLW for the supply of 57 push-pull cars for service on the Raritan Valley commuter line. The order was placed after a New Jersey court turned down a request by the Budd Co., an unsuccessful bidder, seeking to delay the award (*RA*, July 14, p. 46).

- *U.S. Department of Transportation.*—Awarded a four-year, $67,759,082 contract to Boeing Services International Inc. of Cocoa Beach, Fla., to operate and maintain the Transportation Test Center at Pueblo, Colo. Dynalectron Corp. of Albuquerque, N.M., holds the present contract, which it won in 1976. Dynalectron was unsuccessful in its bid for the new contract. Also bidding were FEECO (Federal Electric Co. and ENSCO, a joint venture), of Colorado Springs, and Lockheed Electronics Co. Inc. of Houston, Tex.



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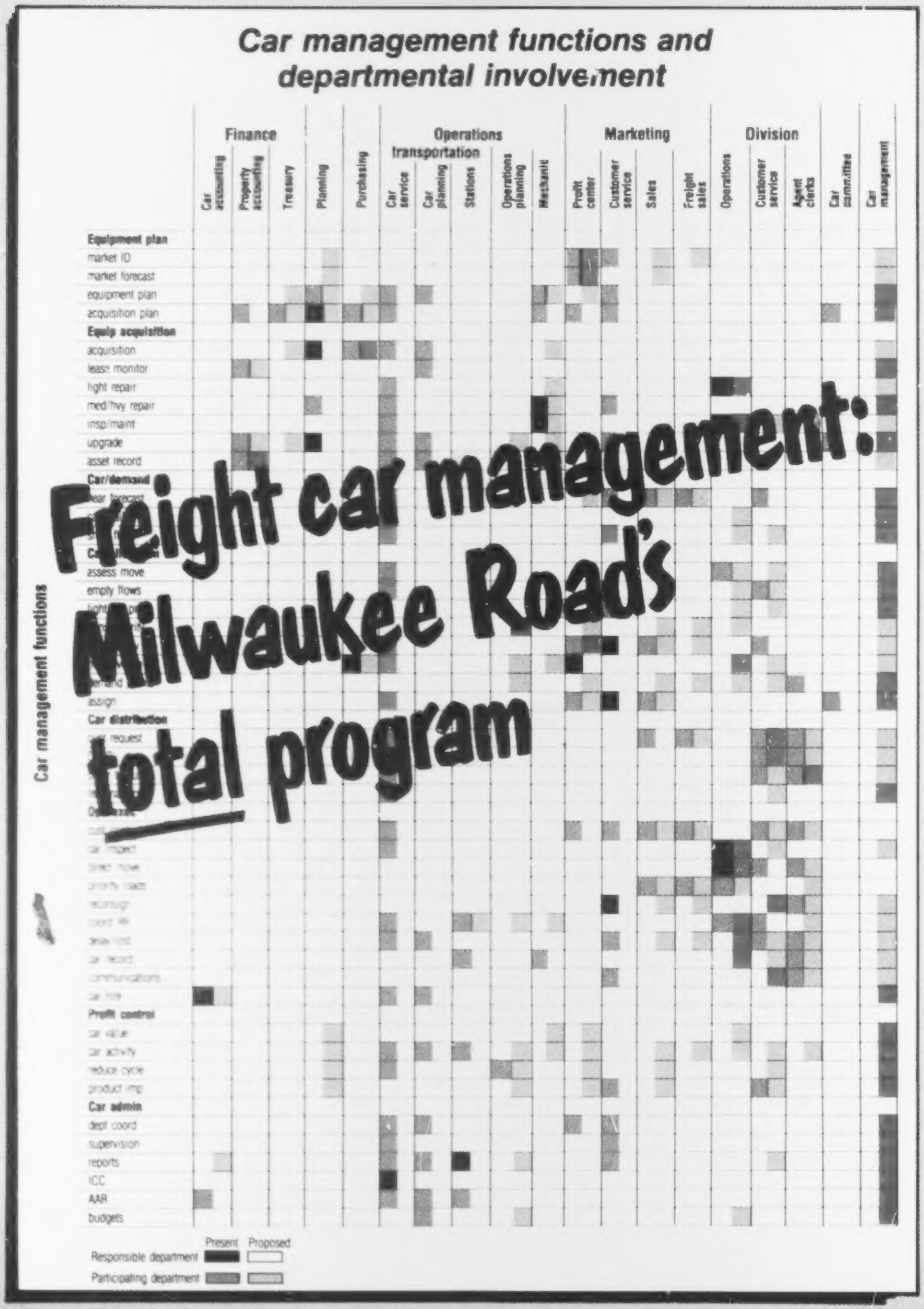
Chemicals: As traffic grows, so does the emphasis on safety

August 25, 1980

RAILWAY AGE

Freight car management: Milwaukee Road's total program

Car management functions and departmental involvement



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Inside

LUTHER S MILLER

DOG DAYS TO REMEMBER

The dog days, which fall in that sultry period between early July and early September, are traditionally marked by "dull lack of progress," according to our office lexicon. For railroads, the dog days of 1980 will be long and painfully remembered. They have been marked by a quite remarkable lack of progress, though they could hardly be called dull.

First came a startling setback in the U.S. House of Representatives on July 24. On that day a painstakingly put together railroad deregulation package—the fragile product of many months of give-and-take negotiation among the interested parties—was busted wide open by the House's unexpected acceptance of the so-called Eckhardt Amendment, a utilities-inspired maneuver to hold down coal rates. Lobbyists supporting the deregulation bill had thought that the Texas Congressman's explosively controversial contribution to the legislation was safely dead and buried. It wasn't, as the House proved by a 204 to 197 vote following a furious lobbying effort by the utilities.

Railroad lobbyists, caught napping as Eckhardt pulled the switch, were still conducting their post mortems when another bomb went off—this time at the ICC. By a vote of 5 to 2 on Aug. 13, the commission ordered an end to collective ratemaking by the railroads, effective Oct. 12. The first reaction of some railroad people to this news was, "Somebody's made a mistake. They can't do it. The Reed-Bulwinkle Act of 1948 gives us antitrust immunity in setting rates." But the ICC *could* do it. What the Reed-Bulwinkle Act did was give the ICC discretionary authority to immunize the railroads against the antitrust statutes—and the commission has now exercised its discretion to end the practice. (For initial railroad reaction, see the news story on p. 8.)

The ICC said it was halting collective ratemaking in order to give shippers additional price and service options. But there was some evidence that all shippers might not be ecstatic with these options. M. J. Fiocco, a spokesperson for the National Industrial Traffic League, was quoted as saying: "Some shippers have valued the orderliness and stability in pricing brought about by the three major rate bureaus, and without that familiar system many of them will have to expand their shipping offices to keep track of the many different prices that would vary with each railroad."

NOT ANTIPASSENGER—JUST PROFREIGHT

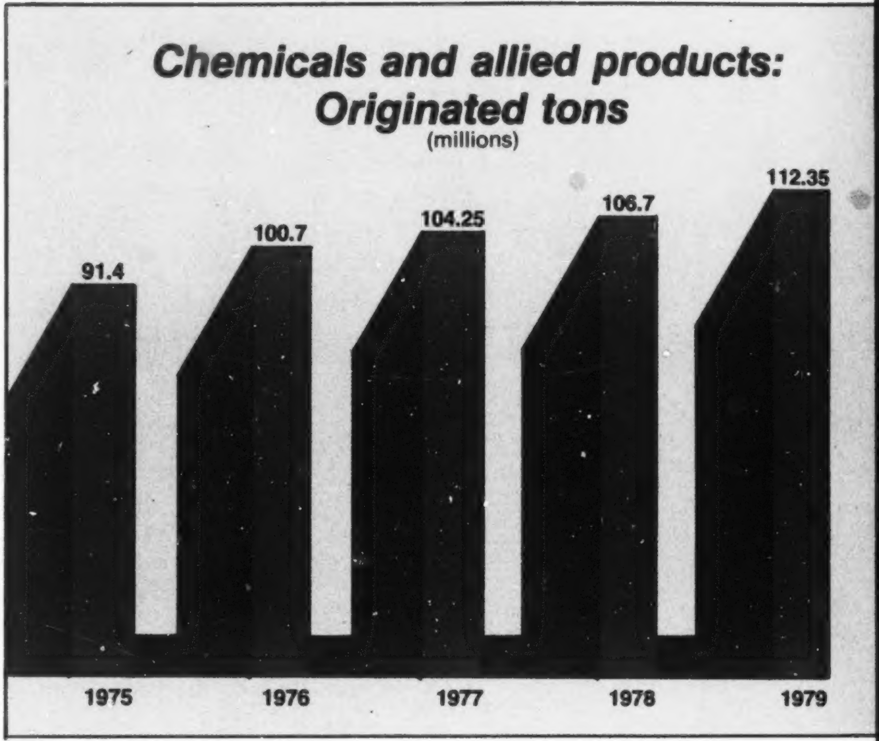
In this space July 28, we took strong exception to the arguments advanced by Henry Fairlie, a syndicated columnist, advocating the nationalization of U.S. railroads. Mr. Fairlie, you may recall, was advancing the notion that we could have the same fine passenger service that he has found in Europe if only our railroads were brought under public ownership. In reply, we made the point, among others, that Amtrak *had* been brought under public ownership for all practical purposes, and it had not so far been demonstrated that the government could run passenger trains more successfully than private enterprise. What, we wondered, would be the effect on freight service if government took *that* over?

Some readers have interpreted this column as an attack on Amtrak. It was not intended to be. The only question we raised was whether it would really do a whole lot of good for 300 passenger trains if we nationalized 10,000 freight trains. We stand by that question—and its implicit answer.

Commodities by rail

Chemicals As traffic grows, so does

By FRANK MALONE
Associate Editor



Chemicals and allied products: Originated tons (millions)

Chemicals traffic is big business for the railroads, and it's going to get bigger. Originated tonnage of chemicals and allied products increased 23% from 1975 through 1979. While tonnage through July of this year was down from the year-earlier level, it wasn't down as much as rail traffic as a whole. This year's slump is viewed as just a temporary dip in a growth pattern expected to resume its steady course early next year.

There is no such slowdown in the emphasis on safety. There can't be: As much as 75% of chemicals and allied products traffic is considered in some way hazardous, says the Association of American Railroads.

That means that any discussion of moving chemicals by train must start, proceed, and end on the same note—safety. For no other class of commodities important to railroad revenue does safety in transport weigh so heavily on the minds of carriers and their customers alike. For no other class, perhaps because of that safety factor, does their mutual understanding seem so strong—and it extends beyond safety to service concerns.

Both railroaders and shippers seem to understand that the rail mode is a lot safer than the general public might think, despite nationally publicized evacuations such as that of Muldraugh, Ky., on July 26, where a train derailment caused one tank car of vinyl chloride to explode and another to catch fire. Railroads and their users are familiar with statistics that show Muldraugh clearly as an exception. Both sides, however, are quick to declare that those figures, good as they may be, are no cause for contentment.

After citing the outstanding safety record of his own railroad, the biggest chemicals hauler in the U.S., James W. Gessner, Missouri Pacific president and chief executive officer, says: "I take no comfort from these statistics. I certainly find in them no justification for complacency. A single injury, a single death, a single hazardous materials derailment is one too many."

- **What lingers.** The memory of fireballs and deaths caused by accidents involving hazardous materials is, of course, what lingers longest in the minds of the public and the news media. Three of the most vivid memories are from the 1970s:

—Seven railroad employees died at Decatur, Ill., in July 1974 when a tank car of liquid petroleum gas exploded after being punctured in a Norfolk & Western switching accident.

—Twelve persons, mostly cleanup-contractor employees, died in January 1978 at Waverly, Tenn., when a tank car of liquid petroleum gas exploded—several days after a Louisville & Nashville derailment.

—Eight persons died in February 1978 near Youngstown, Fla., when tank cars leaked chlorine after a derailment on the Atlanta & St. Andrews Bay.

Those three incidents alone accounted for 70% of the 39 deaths caused by train accidents involving hazardous materials through the entire decade, which ended well with no such fatalities in 1979. Through mid-August of this year, there were two. Both were train crew members who died from exposure to anhydrous ammonia, after a Burlington Northern derailment caused by a mudslide near Richland, Wash., in January.

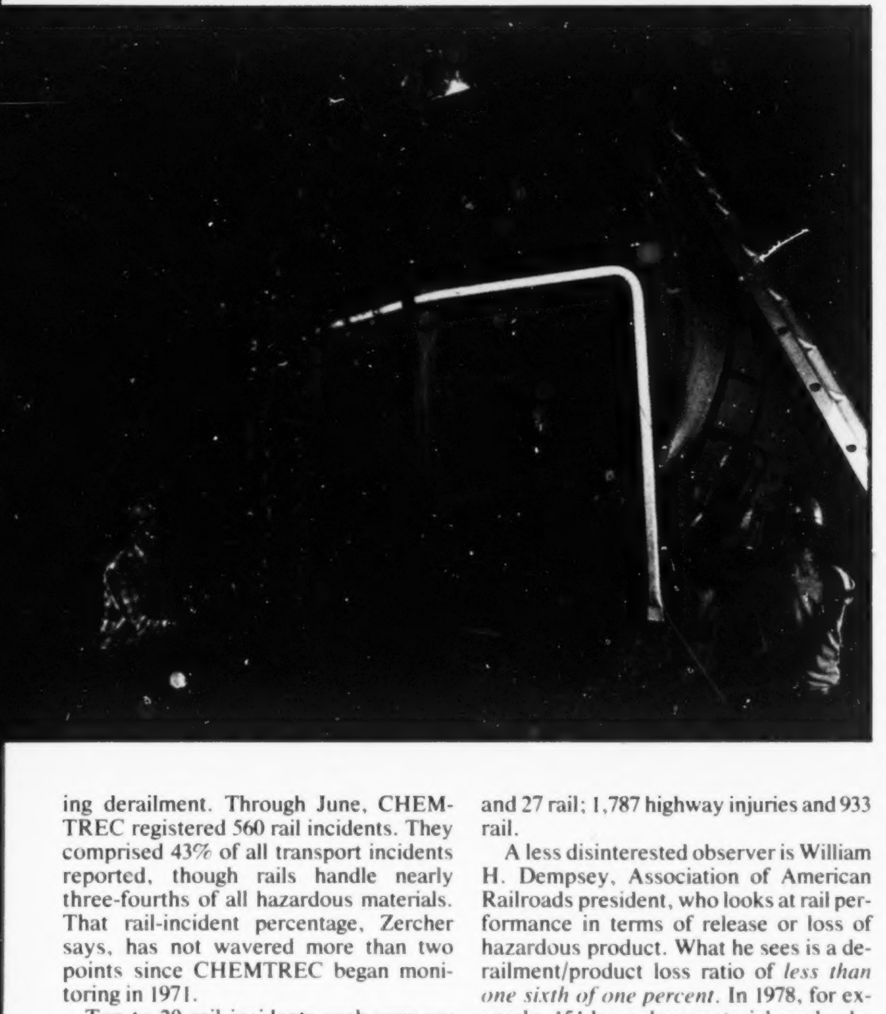
As in the Richland incident, none of the major tragedies of the '70s was caused by bad track, though track quickly became the news media's primary suspect. Within the industry—carriers, shippers, and suppliers—attention centered on equipment, that is, on what could be done to make tank cars less prone to puncture, regardless of a mishap's cause.

While the industry has worked on one of the greatest cooperative efforts ever undertaken, the retrofitting of certain classes of tank cars with puncture- and fire-preventing components, the railroads have maintained their role as reliable transporters of chemicals. That means they haul about 70% of the hazardous tonnage handled by all modes, amounting to more than a million such carloads each year.

- **A look at the record.** Just how are they doing, in terms of safety? One of the best observers of their performance is the nonrailroad emergency response organization known as CHEMTREC, the chemical transportation emergency center in Washington, D.C. Round-the-clock communicators provide guidance for on-the-scene rail, fire, police, and government personnel anywhere, anytime. The shipper-sponsored service's director is John C. Zercher, who says the frequency of rail incidents involving hazardous materials shows no alarming trend.

Zercher says "incidents" reported to his agency include everything from a leaking tank car valve to an evacuation-caus-

the emphasis on safety



ing derailment. Through June, CHEMTREC registered 560 rail incidents. They comprised 43% of all transport incidents reported, though rails handle nearly three-fourths of all hazardous materials. That rail-incident percentage, Zercher says, has not wavered more than two points since CHEMTREC began monitoring in 1971.

Ten to 20 rail incidents each year are considered major, and that category includes situations where evacuations are precautionary only, and where there is no loss of life nor limb. "Frankly, it is a subjective evaluation," Zercher says. So is the definition of incident: "We are mixing apples, oranges, hogs, pigs, just counting the number of times the phone rings."

Another nonrailroad source is the National Transportation Safety Board, whose statistician, Ludwig Benner, uses data provided by a sister Transportation Department agency, the Materials Transportation Bureau. Benner says that, despite three major rail accidents, the 1977 through 1979 period shows railroads with well under half as many hazmat-related deaths as those occurring on highways. In that period, there were 62 highway deaths and 27 rail; 1,787 highway injuries and 933 rail.

A less disinterested observer is William H. Dempsey, Association of American Railroads president, who looks at rail performance in terms of release or loss of hazardous product. What he sees is a derailment/product loss ratio of *less than one sixth of one percent*. In 1978, for example, 151 hazardous materials carloads, out of 1.1 million handled, lost lading as a result of derailment. Joseph Walsh, Federal Railroad Administration associate administrator for safety, says the most recent 1980 railroad accident statistics show a steady low ratio of dangerous-products loss.

● **Probing the problem.** But 1978 was the year of Waverly and Youngstown, and the concern caused by those tragedies produced the Inter-Industry Task Force on Rail Transportation of Hazardous Materials, probably the single most important shipper-carrier-supplier group ever formed. Hard-nosed subcommittees went to work on equipment design, accident response, systems safety analysis, and transportation.

A final report issued in mid-1979 included this assessment of rail performance: "It appears that about 35% of all freight trains contain hazardous materials. Only about 7.5% of all accidents, however, involve trains carrying hazardous materials and only 1% of all accidents involve a release of hazardous materials. . . .The number of major accidents, that is, involving a release and resulting in a fatality or over $500,000 damage, varies from zero to five per year. Compared with some other transportation safety problems, this represents a relatively good safety performance."

The Task Force's primary objective was tank car retrofitting, something railroads and suppliers had already been pursuing. As a result of what AAR's Dempsey calls "one of the most massive research efforts ever funded by private industry," all Class 112 and 114 tank cars (not insulated) now have shelf couplers, with heavy steel plates (shelves) above and below, to reduce the chance of uncoupling and puncture in a derailment. Many cars also have (1) head shields, heavy steel plates on each end, to absorb impact and prevent puncture; (2) thermal shields, special insulation and steel jacketing, to insulate cars carrying pressurized or flammable materials from fires; and (3) stronger steel cradles supporting tanks on car frame and undercarriage.

● **Protective action.** Ironically, shelf couplers were developed and ready for installation three years before the U.S. Transportation Department would allow their use. In July 1978, the Materials Transportation Bureau ordered such couplers installed according to a faster schedule than the bureau itself had previously issued. It also ordered a speeded-up retrofit of head shields.

Just as the devices themselves showed what private industry could do, their accelerated installation showed even more. At first, there was doubt that manufacturers could deliver enough new couplers to meet the new deadline, Dec. 31, 1978. There was also doubt that car owners could find adequate repair facilities for the retrofitting. The Task Force, however, supported the MTB order as a prudent safety measure, and its final report tells how industry coped:

"The subcommittee on equipment, design, and maintenance completed a comprehensive survey of shelf coupler manufacturing capabilities, approved repair facilities that could perform the change-outs, and the location of the major concentration of 112/114 cars requiring coupler retrofit. Efforts were made to get shelf couplers to appropriate repair facili-

Cooperation on safety between railroads, car owners, car builders, and hazmat shippers has reached a new high.

ties. All owners/operators of 112/114 cars were notified about capabilities, capacities, work load, availability of suitably located repair facilities, and means of initiating activity of each shop.

"Railroads participated by making repair facilities available, especially repair tracks; by sharing supplies of shelf couplers; and by moving cars to repair facilities as required to meet schedules.

"With respect to head and thermal protection, the subcommittee developed information on suitably located repair shops capable of performing the required work, determined capacity of each shop, and forwarded the information to shipper associations and owners of Class 112/114 cars."

Those efforts resulted not only in on-time installation of new couplers but of head shields for cars requiring such shields only (Dec. 31, 1979 deadline). For cars requiring thermal protection as well, a Dec. 31, 1980 deadline is almost met already.

● **A special case.** As for another type of tank car, the 105, the extent of retrofitting, if any, remains to be determined. These are insulated cars (four inches of fiberglass around the tank shell) that carry liquefied compressed gases. They also have steel protective jackets, though not as thick or protective as the head shields required on modified 112 and 114 cars. Just how effective the 105 protection is will be known next year, upon completion of a study by the Federal Railroad Administration and the Railway Progress Institute-Association of American Railroads tank car safety test and research project.

Meanwhile, however, the federal government may not have waited to impose more-protective requirements for 105's. The Materials Transportation Bureau July 21 initiated a rulemaking proceding that may lead to retrofitting of 105 cars "to meet the puncture and thermal protection levels currently required for DOT Specification 112 and 114 tanks cars." The bureau is also considering new requirements for other cars carrying the same hazardous materials as do the 105's (*RA*, Aug. 11, p. 10).

The week that began with *Federal Register* notice of the proposed rulemaking ended with the Muldraugh, Ky., incident. An Illinois Central Gulf derailment included six tank cars of vinyl chloride and one of chlorine. The two chloride cars that burned caused evacuation of approximately 7,000 people, of whom about 2,000 did not return home until late on July 30.

No one was killed. No one was hurt except a train crew member, and his injury was minor. No local property was damaged (ICG Aug. 4 opened a claims office at the Muldraugh city hall to handle evacuation-related costs). Though spectacular at first, the accident was in no way a "catastrophe," as Hugh Downs called it during the July 31 version of American Broadcasting Co.'s "20/20" television program. The fact that it wasn't may well be due largely to the tank car retrofit effort.

● **Cooperative measures.** Another major effort of the Task Force equipment subcommittee was directed toward better inspection and maintenance procedures. It included formation of an "ad hoc" group of mechanical officers from railroads, nonrailroad owners of cars, and major carbuilders. The objective was better communication for improved condition of rolling stock.

The subcommittee developed procedures for safety improvement in these areas: tank and valve safety retests, pretrip inspection of tank cars, greater attention to running gear, securement of empties for return trips, development of audiovisual aids for "hazmat" handling and car inspection/repair, quality of contract repairs, use of AAR Mechanical Division publications, and more effective planning of repair programs with inspections to establish repair priorities.

"During the progress of this work, the cooperative exchange developed among the railroads, car owners, car builders, and shippers of hazardous materials has reached a level not achieved in the past," says the Task Force report. The "ad hoc" mechanical officers' group known as the mechanical officers liaison committee has remained active following dissolution of the Task Force; its most recent meeting was July 25 in Chicago. Cochairmen are Robert E. Wilson, Stauffer Chemical Co. director of transportation operations, and Hobart L. Scott, Jr., Norfolk & Western general manager-motive power and equipment. They agree that the group's chief virtue is its free and open discussion of problems. The July 25 discussion included FRA regulations, AAR interchange rules, shipper/railroad car inspections, and better use of CHEMTREC.

● **CHEMTREC's role.** Also promoting better—in the sense of faster—use of CHEMTREC is, not surprisingly, John Zercher. "We're trying to persuade the railroads to put us higher up on the list. Our members want to be there if they've got a car down, because they think they've got something to offer." Conceding that train dispatchers and related officers already have a long list of names to call when a serious derailment occurs, Zercher nonetheless thinks they can contact CHEMTREC sooner than they might think.

Despite that concern, however, Zercher sees carriers and shippers working together more and more closely in emergency response activities. One big element is a workshop program for shippers on emergency response, and, he says, "the railroads are cooperating on this not just by providing input but by attending, even though the workshops are oriented primarily to chemicals people."

Supporting the shipper-education effort is a CHEMTREC steering committee including representatives of Dow, Du Pont, Shell Oil, PPG Industries, Chevron, and Union Carbide. Attending the committee's July 16 meeting were members of another steering committee, that of the AAR's Bureau of Explosives. "We may complain to each other, sure, but the fact that we get together is one of the most positive signs you can find," Zercher says.

The Bureau of Explosives' field staff of 19 inspectors in the U.S. and Canada concentrates on safety audits of rail facilities and of production/shipping sites of more than 500 member plants. They also help railroad personnel handle derailed carloads of hazardous commodities. The BofE's director is Tom Phemister, who recently has been involved in an area of carrier/shipper disagreement, a dispute over on-train identification of commodity.

● **Which identification code?** For fast determination of a commodity's hazard-degree and proper reaction, the rail industry relies on a refinement of its standard transportation commodity code (STCC). The code now includes "49-series" numbers that identify hazardous materials and rank them according to primary, secondary, and tertiary levels of danger. This identification is part of all shipper papers on trains, primarily waybills, with which conductors must familiarize themselves each trip. The STCC number can be quickly referenced in a red-cover manual that is standard train-crew equipment, the BofE's *Emergency Handling of Hazardous Materials in Surface Transportation*. Currently being updated, the manual is also widely circulated among shippers and local authorities.

The DOT's MTB, however, wants something a little different, namely a four-digit number on cars of "hazmat," separate from their required warning placards and on shipping papers as well. Known as the United Nations Code, the MTB-proposed addition would not be commodity-specific but would lump groups of materials under a number for reference to a common page within an MTB emergency guide book.

Phemister says the guide would be subject to misuse if numbers were transposed. Though that can happen with any numeric system, it seems a greater liability for a system with no "internal logic," that is, where numbers represent nothing specific but merely point to an index. A final hearing on the proposal took place in Washington July 31, and a ruling was expected by mid-September.

A compromise was expected, including, among other things, addition of the UN number. But railroads likely will make little use of it; as Phemister says, "The STCC number does so much more for us than this ever could, and it is not confusing like this one is."

● **Changeable signs.** What Phemister would really like to see is identification of commodity by name on the placard, which shippers oppose because they see higher labor costs from the placard-changing needed for the approximately 16% of cars whose contents ever change. The rest either carry the same commodity all the time or already carry a product name.

Placard-naming of commodities caught the fancy of Geraldo Rivera, reporter for the June 3 ABC "20/20" tv program (*RA*, June 30, p. 46). That show elicited a strong response from the AAR, which was broadcast July 31 along with the Downs "catastrophe" phrase. The following dialogue was left out of Rivera's report.

Rivera: "What system would you advocate whereby those emergency services people would know precisely what was inside a car that was in distress?"

Phemister: "The painting of the name of the commodity on the outside of the car or the writing of the name of the commodity on the placard."

Rivera: "Who would object to that? It seems eminently reasonable."

Eminently unreasonable, according to AAR officers, was Rivera's lopsided approach allowing no credit for shipper/railroad efforts toward reducing risks of "hazmat" transport. The issue of on-train identification represents no serious rift in the steadily improving carrier-customer relationship. It represents, rather, a continuing search for the most effective emergency response, an area where much progress is already evident.

● **Action at a spill.** "The railroads and the communities they serve have, by and large, enjoyed superb cooperation during emergency situations from the shippers of hazardous materials," says AAR's Dempsey, citing CHEMTREC as the best example. That organization can produce quick response from other organizations representing specific commodities such as CHLOREP for chlorine producers, as well as from shippers with sophisticated emergency teams, such as Dow Chemical.

While praising, Dempsey cites a potential problem: "In today's litigation-prone society there is some fear that voluntary actions could lead to potential legal liability. One way to encourage all concerned—shippers, carriers, CHEMTREC, the Bureau of Explosives, and others—to continue to provide their very beneficial services is to grant such volunteers protection from litigation. Often termed 'good samaritan laws,' there are plans and model acts that should be considered for adoption on a nationwide basis."

Regardless, however, of which shippers are at the scene, there's broad agreement that the individual in charge is the senior railroad official. That person knows the railroad environment intimately and how to get the outside expertise needed. The railroad has primary fiscal and legal responsibility and thus the greatest incentive to make the right decisions.

"History shows that when anyone else steps in, more often than not decisions are made which are not the best," Dempsey says. "Experience also shows that senior railroad officials have made the right decisions almost always and that there is no demonstrable need to alter the present system. The railroad's role as a common carrier means that, at least initially, it is responsible for the cars and commodities damaged. This unique legal status does *not* determine third-party rights or liabilities, and it exists as a means of effecting the restoration of vital transportation services. Any change in this role must be seriously examined in order not to disrupt the nation's rail network."

● **Help for the locals.** Also at the scene, of course, are local fire and police officials who may be encountering their first "hazmat" situation. For such local personnel, the Inter-Industry Task Force created a training program expected to include about 250,000 volunteer firemen by early 1981. Called "Recognizing and Identifying Hazardous Materials," the program shows how to find shipping documents and use them to identify products, and then how to use emergency resources such as CHEMTREC.

"Paradoxically," Dempsey says, "the fact that the program is being offered free has been one of its stumbling blocks. Fire fighters long accustomed to the blandishments of emergency response course salesmen have a hard time believing there is no charge."

Also helping local officials at the scene of an accident involving "hazmat" may be train crew members on several railroads that now supply computer-generated consists describing every dangerous load on the train. Located both in locomotive cab and in caboose, printouts list each load by car number and position in the train. There are instructions for handling spills and fires, personnel safety, evacuation, and environmental protection. With some "seed" money from the FRA, Missouri Pacific pioneered this practice about five years ago.

Dow: "Rails have a

If railroaders have any doubts about their role in chemicals transportation, Dow Chemical is ready to dispel them. The company is dedicated to the rail mode—to making it safer, more efficient, more available, and thus more profitable. Dow officers see nothing but good track times ahead, if railroads do some doubt-dispelling themselves.

The main doubt is about rails' readiness, not about their opportunities. "I've been telling railroad people that I see a bright future for them if they can capitalize on the opportunities," says William A. Rose, Dow manager of distribution. "Their fuel costs are going to increase less rapidly in relation to those of other modes. It looks to me like the rails have a good chance of cutting back into truck markets and even into some marine markets."

But Dow itself is making sure of its own readiness, and that means involvement with the rail mode in nearly every aspect except running trains. Every year the company ships more than 4 million tons of its products by rail—about a third of Dow USA's total output. Dow's fleet now totals nearly 8,500 cars, half owned, the other half leased. Replacement value is almost $480 million. Dow spends more than $150 million a year for rail transportation, including a Dow unit train that runs regularly between Texas and Midland, Mich.

"This sizable investment calls for a corresponding commitment to its careful management, and we've made such a commitment," says Thomas D. Seeley, manager-rail fleet administration. "We believe in active management of our fleet, not only to ensure effective use of our investment but also to make certain that our products are being shipped as safely as possible. We believe the rail mode is the safest."

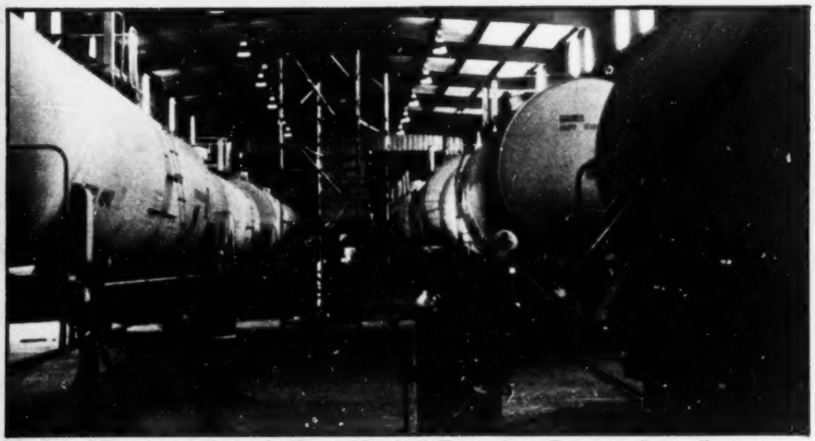
● **Exclusive car-servicing. Regarding safety, however, Dow is taking nothing for granted: In 1977 it signed a contract with Berwind Railway Service Co., the first such contract by an industrial company, for exclusive maintenance of Dow cars at a Marshall, Tex., facility designed for tank cars. Capacity is now being doubled.**

Located on a Missouri Pacific line, the Marshall shop handles Dow cars from

Because of its strategic position in Texas and neighboring states, MoPac now reports chemicals are its biggest commodity, accounting for 26% of revenue ton-miles. Yet the last hazardous materials-related death on the railroad occurred about 10 years ago, when a spectator was killed after refusing to leave a derailment site.

"The ability to marshall skilled personnel quickly and the cooperative efforts of parties involved have enabled us to keep damage and loss from hazardous materials incidents to a minimum on our railroad," says James Gessner. But just as Gessner finds little comfort in favorable safety statistics he finds little in effective response programs.

good chance of cutting back into truck and marine markets."



Interior of Berwind tank car facility at Marshall, Tex., where Dow cars from all over the nation are inspected, maintained, and repaired. Capacity is now being doubled.

throughout the U.S., most of which carry products from three of the company's major divisions—Freeport, Tex., Plaquemine, La., and Midland, Mich. Berwind provides a full line of inspection, maintenance, and repair service.

Dow inspects cars before sending them to Marshall, to make sure any car that might have carried a dangerous commodity is clean. Berwind makes another inspection, to schedule work according to type needed, rather than on a first-in, first-out basis. An "advanced" two-track design and an overhead crane have helped reduce Dow cars' out-of-service time by 50%.

"The exclusive type of rail car servicing was a new experience for both Dow and Berwind," Seeley says, "so modest goals were set for a gradual phasing-in. We set a target of 250 cars for the first year, but actual performance exceeded even the most optimistic hopes. By the end of 1978, a little more than a year after opening, we'd put through 774 cars."

Safety also is a major topic of discussion with any of the 10 railroads that move Dow products. That includes emphasis on the safest routes, as Keith Bunting, general traffic manager, explains: "I think we're doing a better job of looking at the trackage that our shipments are moving on. We've been more concerned about picking our routing and the carrier that we do business with, largely on the basis of safety."

Dow rail observers are happy with their 1979 experience, the safest in many years, but a little concerned about 1980. Carrier-caused incidents (as opposed to incidents at Dow facilities) are up a little. The severity, in terms of damage to Dow equipment, however, is down.

● **The "positive" story.** In general, Dow officers agree that railroads don't really talk enough about how safe they are. "I think they tend to be defensive where they have a positive story to tell, and we're trying to encourage them to gear up and tell that story."

They also agree that their greatest concern is safety in railroad yards. "Statistics show that many of our accidents happen in switching operations, about 50-to-60%," Seeley says. "These seem to be more related to personnel than over-the-road types of accidents."

Earlier this year, seven new Dow cars moving toward a Texas plant for their first loads were derailed, with an estimated $28,000 damage to each. "That, of course, is what we bring to a carrier's attention as soon as possible," Bunting says. "I recently had a conversation with one of our major carriers that had five incidents in less than 30 days. We've recently had meetings with four or five others, and our major concern was this type of incident. Their managers are genuinely concerned, but we want to see that concern reach the operating levels."

Adds Rose: "Our division personnel have told us they're pleased with railroads' response at their meetings. Railroads are appropriately concerned, and we expect the trend to change."

Transit time is another thing Dow expects to see improve. The objective is 9 turns per car a year, compared with about 7.9 currently and 8.5 in 1978. That's already an improvement, but only a recent one: Dow averaged 10.5 turns in 1976. "Of course," Seeley says, "the 1980 'improvement' must be put in the context of less volume and more power available. The key is what's going to happen in the next business upturn."

● **Accident site authority.** Another rail observer at Dow is Lee R. Kiley, manager-distribution technical services. That includes the company's emergency response program, one of the most sophisticated in the chemicals industry. He emphasizes that Dow's role at an accident site is advisory only, that "cleanup" decisions are the railroad's. "There was a derailment in Mississippi this summer where a railroad spokesman was quoted as saying Dow 'had taken over.' We don't ever want to convey that impression. The person best qualified to 'take over' is the railroad official."

As for railroad spokesmen, Dow would like to see them take a more active role—right at the scene of a serious accident. Dow's emergency response team includes a public relations man, but Seeley says a railroad PR rep would be better qualified to deal with the overall situation. Some roads, L&N for one, agree.

Such areas of concern, however, are evidence of Dow's deepening involvement with the rail mode, an involvement stretching back to the days when the company was little more than a brominemaker. (*RA*, June 26, 1978, p. 26). Then, the company's second president, Willard Dow, wanted to incorporate and expand the minirailroad he had built around the brine wells at Midland, to ensure the company's supply of rail transport.

Willard Dow set the tone for an enduring relationship with railroads, one that now may well mean a greater share of Dow's traffic. As Manager-Distribution Rose says: "Because of energy costs, we're making very careful studies now in selecting modes. And we're going to have to do a lot more of it from now on." ■

He readily declares that the most effective effort of all must be preventive. In other words, sophisticated emergency response is somehow a reflection of a railroad's failure to avoid the need for such response in the first place.

"In the end," Gessner says, "it is the railroad that must undertake the kind of comprehensive program necessary to minimize the chance of such an incident happening at all."

● **MoPac's prevention program.** The Missouri Pacific is hardly alone in its emphasis on prevention, but its program is indeed comprehensive and a model for the industry. The first step, Gessner says, is to build a sound physical plant to reduce the number of accidents caused by defective track, locomotives, and cars (though most cars used for chemicals are owned or leased by shippers). However, that may be harder than it sounds: "I found a high degree of correlation between an individual railroad's financial health, its ability to invest in physical improvements, and its safety record."

Then comes training. The railroad's rules and safety personnel "continually range" over the 12,000-mile system with the most current audiovisual aids. Formal classroom sessions augment on-the-job training for operating employees, especially locomotive engineers, who are immersed in train-handling instruction.

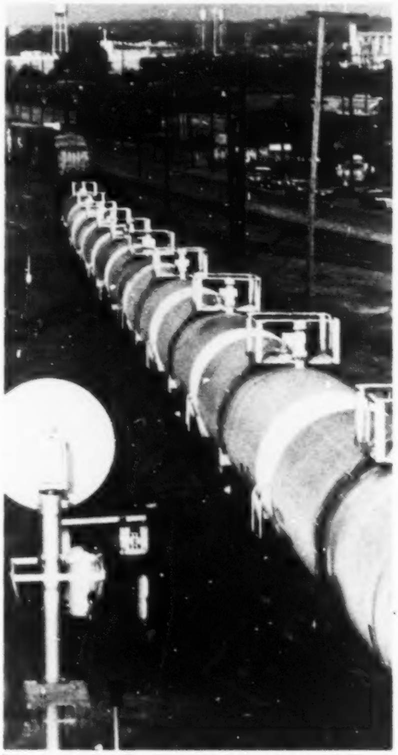
Then there are "stringent" requirements for train movements involving "hazmat." Chemical trains have a maximum of 75 cars, maximum speed of 40 mph, and make extra inspection stops. They have priority over other trains in "meets," and thus avoid switching into sidings. Dangerous carloads get mechanical inspections at origin and are "through-blocked," so removal from trains for switching to others is reduced.

Looming over all such operations is the computer, doing far more on MoPac than providing "hazmat" consists. Taking advantage of the repetitive nature of most hazardous materials, the MoPac computer stores the basic repetitive waybill information for use in compiling all significant data surrounding each movement.

"Today," Gessner says, "we have more than 7,000 patterns in this system, covering all actual and anticipated movements on our railroad. Usually, from 30 to 50 patterns are changed or added daily. Each pattern is carefully monitored by the hazardous materials personnel in our marketing department to make sure that the information is accurate, that the material is properly classified, even that the name of the material is properly spelled. The presense of an 'a' rather than an 'e' can make a substantial difference. Any apparent discrepancy is immediately checked with the shipper, sometimes with two or more shippers where a situation exists that each lists the same material differently.

"This is all very painstaking work requiring many man hours. However, if it prevents a single hazardous materials incident—and I am positive it has—the expense is well worth the effort."

● **Spill prevention as a selling point.** Rounding out the railroad's hazardous materials program are a couple of important staff positions. One is that of director of petrochemicals and hazardous materials, in the marketing department. The other, relatively new, is that of director-chemical sales, filled by Jim McLaughlin, who says safety is MoPac's biggest selling point. "It comes up quite a bit, and there's no question that because of safety there's a good dialogue with chemicals shippers about other things, too."



Biggest of U.S. chemicals haulers, MoPac has an outstanding safety record. But, says President and CEO James W. Gessner, "I take no comfort from these statistics...A single injury, a single death, a single hazardous materials derailment is one too many."

Agreeing with McLaughlin are representatives of several major chemicals producers with big investments in car fleets: Dow, Du Pont, Union Carbide, Stauffer, Hooker, and Cities Service. Granting a general improvement in railroads' performance, these shippers express concern about operating employees' training, and that includes both train and yard personnel.

Keith J. Bunting, Dow general traffic manager, says safety is probably the most carefully analyzed aspect of rail transport, and that, where possible, one railroad's gain in Dow business may be another's loss—because of safety records. Bunting is especially concerned about terminal handling: "The railroads seem to have their greenest employees on those switching jobs because that's where they learn and get experience. I think that's one of the major causes of our problems. You're going to have some human errors from time to time among the most experienced, but I think lack of experience is especially troublesome."

W. F. Gillespie III, Du Pont manager of transportation procurement, agrees: "Yard mishaps are a concern, primarily because almost all can be traced to human error or negligence. Improved training of the train crews and improved track condition are also high on our list."

High on Stauffer Chemical's list, according to George A. Coffenberg, vice president-distribution, is "greater employee training on car handling, particularly in hump yards, and observing speed limitations on curves and other areas where excessive speed could cause a derailment."

"Rough handling of cars in switching and interchange appears to be resulting in spillages, ruptured safety discs, and damage to cars," says Charles P. Rader, Cities Service general manager-distribution department. H. R. Thompson, Union Carbide manager-rail equipment, marine and warehouse services, says: "Classification yards continue to be a concern from both lost-time and safety angles. We will be aware of incidents resulting in significant damage to a car and/or product but may not have knowledge of minor incidents. We are concerned about the cumulative effects of these unknown incidents."

Hooker Chemical's director-transportation and distribution, C. D. Carley, says the biggest step toward improved safety would be better roadbed: "Some carriers have made great strides. Others have a long way to go. We know who the carriers are that are the best equipped to handle our hazardous material safely, and this factor plays a major role in our routing decisions."

● **Damage to shippers' cars.** Related to those comments are others about carriers' handling of damage to shipper cars, both in reporting and accepting liability. Dow's manager-rail fleet administration, Thomas D. Seeley, says railroads seem to be using revised interchange rules to avoid liability: "We're taking a strong position, encouraging other private shippers to take positions with the inter-

Shippers find service and communications with railroads improved as carriers have become more marketing oriented.

change/arbitration committee. We've seen a trend of where our car comes back damaged and a railroad says, 'tough luck.' Well, it's not 'tough luck' because we are concerned with the safety aspect. We believe that any car that's damaged must be repaired as soon as possible, but some railroads seem to think they can get away with marginal damage on a tank car. We're establishing discussions with our major carriers to make sure they understand our position."

W. R. Ziegler, Union Carbide manager-rail carrier transportation, says railroads do a good job repairing minor damage but not all do so well in *reporting* damages: "We can avoid a lot of problems if we are contacted immediately after a major incident to a car so we can participate in the disposition of the product and equipment. Where accountability for damage is clear-cut, the railroads, according to the rules, accept the liability. However, many incidents are neither reported nor is there acceptance of liability without extensive documentation on our part. A substantial number of equipment claims must go through protracted negotiations before settlement occurs. And, settlement does not always imply satisfaction."

● **Shippers find service improved.** Safety concerns permeate shipper comments, but those comments include service and other topics as well—and they generally indicate a good shipper-carrier relationship. They also indicate a changing assessment of railroad performance in other areas.

First, of course, is service. "Union Carbide considers rail service to be gradually improving over the past several years, as railroads were spurred by the ICC to reduce deferred maintenance and legislation was passed to provide government-backed loans," says Zeigler. "Generally, we find main lines in better condition and gateway and connecting service improved. Setbacks do occur as the result of individual railroad management decisions on deployment of power, car supply, and train operations."

Says Du Pont's Gillespie: "Service is better in several instances. Much needed maintenance of right-of-way can temporarily affect service negatively." Rader of Cities Service adds: "Rail service appears to be on an upward trend on most railroads. If improvements continue, service may reach the level that was available five to 10 years ago." And Stauffer's Coffenberg says: "In general, rail service has improved over 1979 when serious power shortages existed. But this is not to mean that rail service should be considered good, that is at a level that would be termed acceptable. Service between key terminal points is generally acceptable, but total movement from origin to destination is less than acceptable unless the destination happens to be located in a key terminal area." For Hooker, Carley says rail service is not up to par, but "we think it has bottomed out, and we're optimistic that better days are coming."

● **Car supply.** What, then, about car supply? Are shippers buying more cars just to compensate for longer cycles? Most additions, Coffenberg answers, resulted from expanded capacity, but: "Each year, rail fleets are sized on at least a two-year sales forecast, and rail service is cranked in as a factor in car turnaround. The factor used in 1978 and early 1979 was greater because of poor service than it had been in previous years." That applies for Hooker, as well, Carley says.

Union Carbide's Thompson, however, says increased cycle times "are predominantly the result of increased use of rail equipment for storage purposes." Those cycle times, along with business growth and shifts to rail from other modes, he says, are behind the growth of Carbide's fleet to nearly 7,000 cars from 5,000 in 1975.

For Cities Service, however, service has been somewhat of a factor, as Charles Rader explains: "The overall fleet is 25% larger than it was five years ago because of a combination of poor rail service and increased shipping volume. It is difficult to assess just how many cars have been added for poor service, because a number of factors must be considered. Some service has improved, some deteriorated, storage track nearer to markets has been leased."

Both Du Pont and Dow see longer car cycles as a major factor in fleet growth, but not the only one. Du Pont's fleet is 15% bigger than it was five years ago; Dow's has grown by about 14% just since 1978.

● **Contract rates?** Would contract rates, now gaining momentum generally, help improve chemicals service? Dow, Du Pont, Hooker, and Carbide say they definitely would. "Our first rail rate and service contract," says Carbide's Ziegler, "became effective with Conrail July 5 and includes transit time standards with penalties for poor time and rewards for better-than-standard time. We consider the contract area of ratemaking tied to service as an opportunity not only for shippers to contract for the quality of service they are willing to pay for, but to introduce the railroads to a whole new concept of doing business, that is, by operating trains to provide good service rather than to achieve lowest cost even if service to the customer has to suffer."

Not surprisingly, then, Ziegler cites Conrail as one road with "recognizable improvement in transit," along with MoPac and Santa Fe, and: "We believe improved communications with the Southern Pacific and Chessie have resulted in better service and quicker resolution of problems." Also citing a railroad is Rader of Cities Service: "The Louisville & Nashville has shown significant improvement over the past three years. Improved track conditions and operating practices have reduced delays and provide for more consistent and dependable service." For Du Pont, Gillespie says "several carriers have improved," without naming them but citing derailment reductions and better attention to hazardous materials. Dow and Hocker are impressed especially with Conrail.

● **Better shipper-carrier relations.** One thing these shippers are unanimous about is that their overall relationships with carriers are clearly better than in the past. "Communications have improved, particularly as carriers have become more marketing oriented," Gillespie says.

Coffenberg adds: "Establishment by many major rail carriers of national account executives specializing in chemicals and having a limited number of accounts has assisted in the identification of problems, joining of the issues, and movement toward a resolution."

Most railroad pricing and marketing departments have chemical industry specialists to manage this segment of their business because "There has been an increasing awareness of the value of chemicals traffic," Ziegler says, pointing out that Union Carbide has worked hard to create that awareness:

"Communications are better now partly because of organizational changes here and the initiative taken by our people to improve them. A program of semiannual meetings with our critical carriers was intitiated several years ago and has proven to be very beneficial to both sides. The entire spectrum of shipper-carrier interaction is covered, and carriers have an equal opportunity to discuss their own items of concern."

The most bullish assessment comes from Hooker's Carley: "I see more professionalism in carrier personnel as well as an improved relationship with shippers. I attribute this to more emphasis on training and education. I also sense greater dedication. I don't know why; perhaps the deadwood is being weeded out one way or another. Whatever the reasons, I have a high regard for the carrier personnel I see. They are ready, willing and able." ■

Market

CARLOADINGS

Loadings of revenue freight in the week ended Aug. 2 totaled 429,504 cars, according to the Association of American Railroads. This was a decrease of 44,974 cars, or 9.5%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Aug. 2 are estimated at 17.6 billion, a decrease of 2.5% below the corresponding week of 1979.

REVENUE FREIGHT CARLOADINGS

Commodity	Aug. 2 week	July 26 week
Grain	35,263	32,845
Farm products	4,222	4,621
Metallic ores	27,987	27,990
Coal	112,907	110,796
Crushed stone, gravel & sand	15,026	14,843
Nonmetallic minerals	14,916	15,095
Grain mill products	16,464	17,093
Food and kindred products	18,225	17,098
Primary forest products	20,438	19,776
Lumber & wood products (except furniture)	9,372	8,936
Pulp, paper & allied products	20,617	19,818
Chemicals & Allied products	24,639	24,122
Petroleum products	5,218	5,479
Stone, clay & glass products	15,308	15,349
Coke	4,018	4,343
Metals & products	14,765	13,517
Motor vehicles & equipment	10,180	11,176
Waste & scrap materials	10,015	9,590
Forwarder & shipping assn. traffic	10,477	10,039
All other carloads	39,247	39,042
LCL traffic	200	194
Total cars loaded	**429,504**	**421,762**
Cumulative total	1980	1979
31 weeks	**13,458,562**	**14,112,378**
Estimated revenue ton-miles (billions), 31 weeks	**544.8**	**532.6**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended July 26 totaled 30,167 cars (14.2% below the corresponding 1979 week) and 56,326 trailers or containers (down 9.0% from 1979). Cumulative volume for the first 30 weeks of 1980 is 962,872 (down 10.2% from 1979) and 1,753,983 trailers or containers (down 7.4% from 1979).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended July 7 totaled 4.9 million tons (down 2.8% from 1979). Cars loaded totaled 69,000 (down 2.0% from 1979). Cumulative loadings for 1980 were up to 136.3 million tons (up 5.4% from 1979).

- *Amtrak.*—Budd Co. has awarded a contract worth more than $5.4 million to WABCO's Westinghouse Air Brake Division for braking and control equipment to be installed on 150 cars Budd is building for Amtrak. The equipment consists of the E-5 Decelostat Wheelslip Control, 26-C/CS-1 Control Equipment and dual friction brake equipment.

- *Missouri Pacific.*—Ordered a hybrid microprocessor/minicomputer system from WABCO's Union Switch & Signal Division to consolidate dispatcher operations at Houston, Tex. The new system uses "miracle" chip technology featuring five US&S Micro 700 microprocessors coupled to a DEC-PDP 11/34A minicomputer. The equipment is to be installed in the spring of 1981.

- *Washington Area Metropolitan Transit Authority.*—Awarded a $2.2-million contract to U.S. Elevator, a Cubic Corp. subsidiary, for the supply and installation of 17 additional elevators for the handicapped. Under six earlier contracts, U.S. Elevator has supplied 102 elevators to WMATA.

- *Freight cars and locomotives.*—The following report has been received from the AAR and the ARCI:

DELIVERED

	June		May	Six months	
	1980	1979	1980	1980	1979
Built new by carbuilders	7,521	7,547	7,484	45,560	41,785
Built new in RR shops	381	492	589	2,779	2,648
Built new—total	7,902	8,039	8,073	48,339	44,433
Rebuilt	106	106	188	901	428
TOTAL DELIVERED	**8,008**	**8,145**	**8,261**	**49,240**	**44,861**
Locomotives (new and rebuilt)	178	159	167	1,033	853

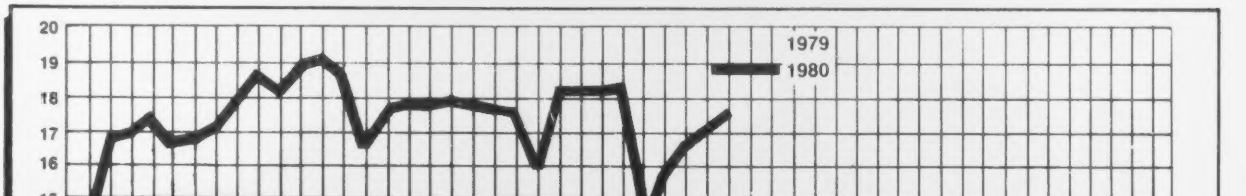
ORDERED

	June		May	Six months	
	1980	1979	1980	1980	1979
To be built new by carbuilders	3,144	6,639	3,882	22,408	71,417
To be built new in RR shops	0	658	1,862	4,512	1,571
To be built new—total	3,144	7,297	5,744	26,920	72,988
To be rebuilt	0	92	0	869	370
TOTAL ORDERED	**3,144**	**7,389**	**5,744**	**27,789**	**73,358**

ON ORDER AND UNDELIVERED

	July 1		June 1	Average backlog	
	1980	1979	1980	1980	1979
To be built new by carbuilders	71,701	119,335	78,911	90,908	110,260
To be built new in RR shops	7,985	5,234	8,366	6,569	5,643
To be built new—total	79,686	124,569	87,277	97,477	115,903
To be rebuilt	68	29	174	422	115
TOTAL ON ORDER	**79,754***	**124,598**	**87,451**	**97,899**	**116,018**
Locomotives (new and rebuilt)	787	1,012	953	1,086	1,152

*Due to revisions and cancellations, the backlog has been reduced by 2,833 cars.



Trucks and suspension systems: Decisions pushing theory?

September 8, 1980

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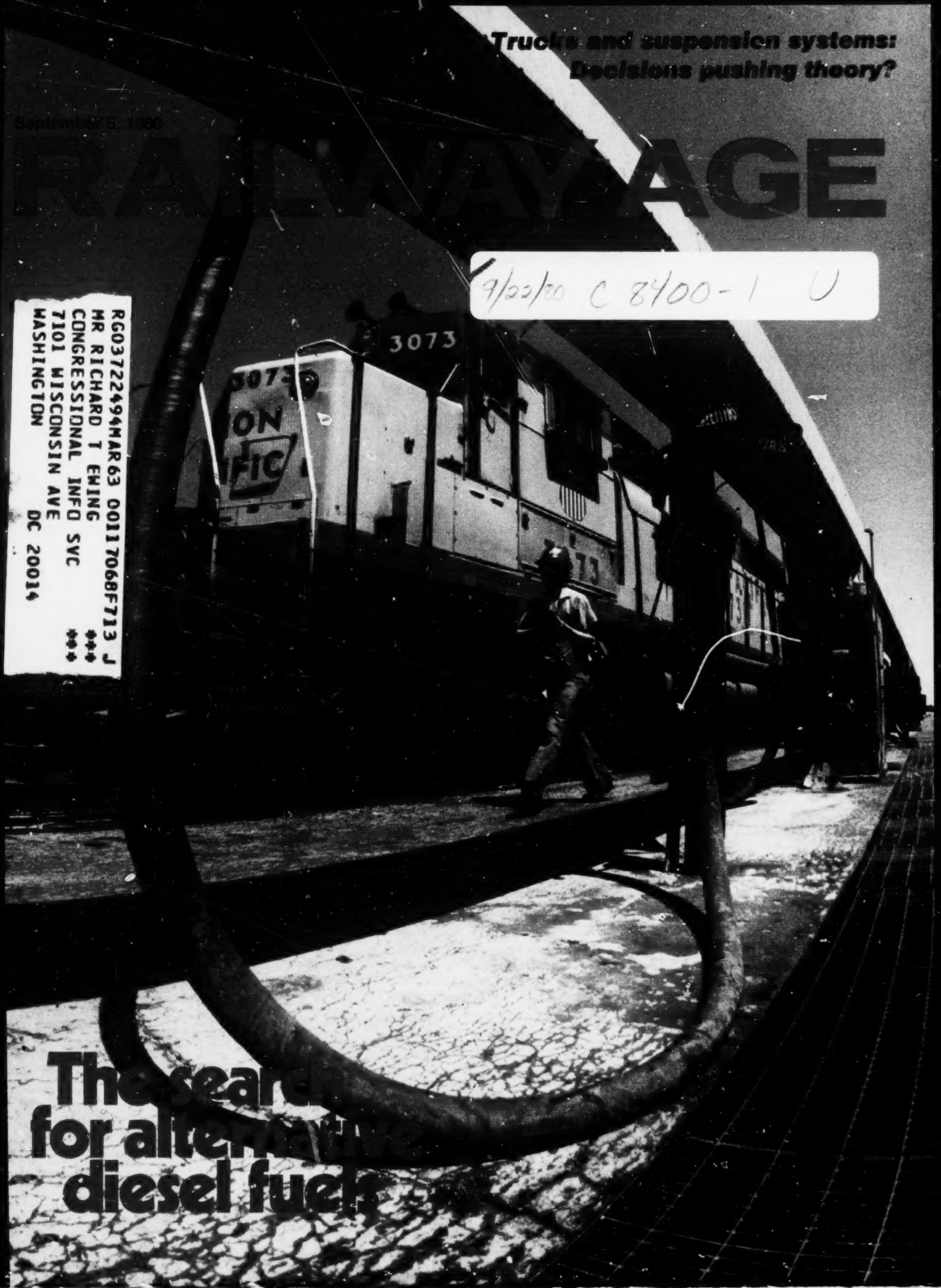

The search for alternative diesel fuels

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Inside

LUTHER S. MILLER

THE RITES OF AUTUMN

Following ancient custom, many mechanical and engineering department officers will celebrate the autumnal equinox in Chicago—though celebration may hardly be the word for the deliberations that will soon get under way at the Hyatt Regency (where the B&B and Roadmasters associations will meet Sept. 15-17) and at the Conrad Hilton (where the Coordinated Mechanical Associations get together Sept. 21-24). Matching skimpy budgets to soaring needs is a balancing act calling for acrobatic skills that are not taught in engineering schools.

Railway Age is devoting much of its first September issue to subjects deemed to be of particular interest to the convention-goers. Like the Chicago meetings themselves (if past experience is any guide), our articles will be seen to produce as many questions as answers.

FUEL...TRUCKS...AND TRACKS

One question uppermost in the minds of all railroad people today is what to do about (1) the soaring cost of "pure" diesel fuel and (2) the probability that at the turn of an OPEC screw the stuff may again become scarce at any price. That question is addressed by Senior Editor Gus Welty in the most comprehensive article yet published on a little-known but enormously important program now getting into full swing at the Southwest Research Institute in San Antonio, Tex. Gus's report—"The search for alternative fuels"—begins on p. 53.

Associate Editor John Armstrong, meanwhile, takes a new look at a question he first pondered in an article we published nearly two years ago. That article was entitled, "The radials are coming—or are they?" Although there has been substantial progress in research and development since that time, the question remains unanswered, as John points out in the article beginning on p. 30. His current report—eighth in our 1980 series of articles on railroad technology—goes far beyond the radials; it covers the whole complex field of trucks and suspension systems. John is duly (but not unduly) impressed by the radical and near-radical truck designs now in various stages of R&D. A main goal is attacking the phenomenon of truck hunting, which John describes as "something like gout—a prestige disease, popularly if not scientifically associated with the wherewithal for a gourmet lifestyle—in its association with railroads where track conditions are good enough for high speeds." But while hunting is "the darling of the analysts," he makes the important point that "the big end of the stick is and will remain the standard three-piece, four-wheel freight car truck....You buy 'em buy the pound, it takes a few minutes to learn how they come apart or go back together, and their faults and limitations are well known."

A writer who *has* come up with answers is Merwin Dick, former engineering editor of *Railway Age* and editor in chief of our companion magazine, *Railway Track & Structures*. With this issue, Merwin returns to our masthead as a consulting editor—and to mark the occasion, he has provided us with a report on the fast-spreading use of geotextiles. For railroads plagued by wet and unstable roadbeds, these fabrics—now available in a bewildering variety—are turning out to be something akin to a magic carpet (p. 70).

In another engineering story, Associate Editor Frank Malone describes how CN Rail is attacking the problem of matching dollars with demands by wringing more productivity out of its track expenditures (p. 65).

Market

CARLOADINGS

Loadings of revenue freight in the week ended Aug. 16 totaled 428,943 cars, according to the Association of American Railroads. This was a decrease of 49,281 cars, or 10.3%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Aug. 16 are estimated at 17.5 billion, a decrease of 5.6% below the corresponding week of 1979.

REVENUE FREIGHT CARLOADINGS

Commodity	**Aug. 16 week**	**Aug. 9 week**
Grain	31,462	34,165
Farm products	4,131	4,033
Metallic ores	27,363	28,306
Coal	117,130	117,227
Crushed stone, gravel & sand	13,553	14,686
Nonmetallic minerals	16,601	15,589
Grain mill products	16,667	16,576
Food and kindred products	18,299	17,796
Primary forest products	19,547	19,817
Lumber & wood products (except furniture)	8,936	8,820
Pulp, paper & allied products	19,568	19,639
Chemicals & allied products	25,008	25,091
Petroleum products	5,404	5,269
Stone, clay & glass products	16,230	15,508
Coke	3,923	3,754
Metals & products	12,770	12,093
Motor vehicles & equipment	11,434	10,236
Waste & scrap materials	10,741	9,975
Forwarder & shipping assn. traffic	10,458	10,256
All other carloads	39,345	39,082
LCL traffic	373	207
Total cars loaded	**428,943**	**428,125**
Cumulative total	1980	1979
33 weeks	**14,315,559**	**15,054,766**
Estimated revenue ton-miles (billions, 33 weeks	579.9	568.4

PIGGYBACK LOADINGS

U.S. Piggyback loadings for the week ended Aug. 9 totaled 30,836 cars (11.6% below the corresonding 1979 week) and 56,571 trailers or containers (down 8.2% from 1979). Cumulative volume for the first 32 weeks of 1980 is 1,024,229 (down 10.4% from 1979) and 1,866,121 trailers or containers (down 7.6% from 1979).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended July 14 totaled 6.1 million tons (up 16.1% from 1979). Cars loaded totaled 82,775 (up 5.4% from 1979). Cumulative loadings for 1980 were up to 142.4 million tons (up 5.8% from 1979).

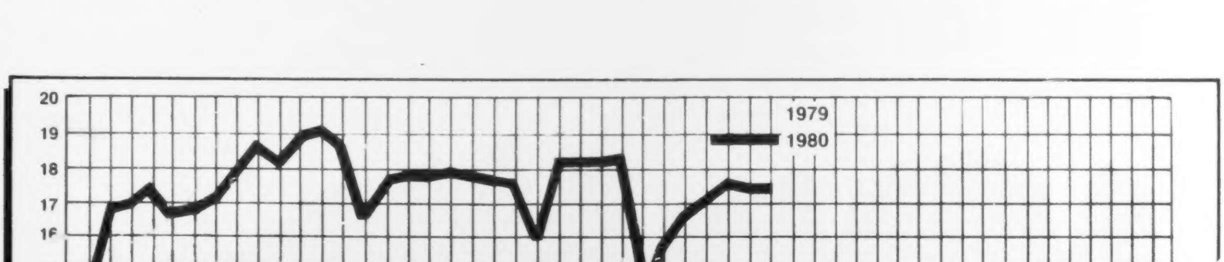
- *CN Rail.*—Ordered 20 HR616 3,200-hp diesel-electric units from the Rail and Diesel Products Division of Bombardier Inc. at a cost of approximately $20 million. Production of the HR616 locomotives will follow that of 10 HR412 models previously ordered by CN Rail.

- *Family Lines.*—Will build a new $4-million car repair and diesel servicing facility at Winston Yard near Lakeland, Fla. The new facility will consolidate car repairs now made at Mulberry, Lakeland, and Winston. Locomotive servicing now performed at Lakeland will be moved to Winston. Car repairs will be performed in a 160 × 130-foot structure spanning four tracks. Each track will be equipped with hydraulic floor jacks, cranes, and support equipment and supplies. The locomotive facility will include an inspection track with a pit and with sanding, fueling, and watering equipment. An adjacent track will be built for light locomotive repairs and to assemble locomotives for outbound train movements.

- *New Jersey DOT.*—Awarded a $12.16-million contract to Transcontrol, a subsidiary of Siemens, for the supply and installation of signal equipment for Conrail's New York & Long Branch commuter line. Prime contractors for the project are Daidone Electric Inc. and Schiavone Construction Corp.

- *Norfolk & Western.*—Awarded a $2.5-million contract to WABCO's Union Switch & Signal Division for design, manufacture, and installation of equipment to upgrade Bellevue Yard at Bellevue, Ohio. Bellevue was among the first class yards to be computerized in the mid-60s. Retrofit will involve a new US&S dual computer control system and hardware including wheel detectors, radar, and microprocessor-based distance-to-ground equipment. The program is to be completed during 1981. NW has also awarded a $4.15-million contract to Rudolph/Libbe/Inc. of Walbridge, Ohio, for construction of a new locomotive inspection and repair facility at Bellevue, and a $1.16-million contract to Branch & Associates, Inc., for construction of a new covered hopper car cleanout facility at Shaffers Crossing, Roanoke, Va.

- *Soo Line.*—Directors approved an $11.6-million increase in 1981 new equipment programs, for 245 additional cars: 200 100-ton covered hopper cars for grain and potash, 25 100-ton covered gondolas for steel, and 20 100-ton ballast cars, all from builders yet to be named. Additions will raise value of 1981 equipment acquisitions to $18.7 million. Additional covered hoppers will raise the total for that car type to 4,200, or more than one-third of Soo's entire freight car fleet.



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September 29, 1980

RAILWAY AGE

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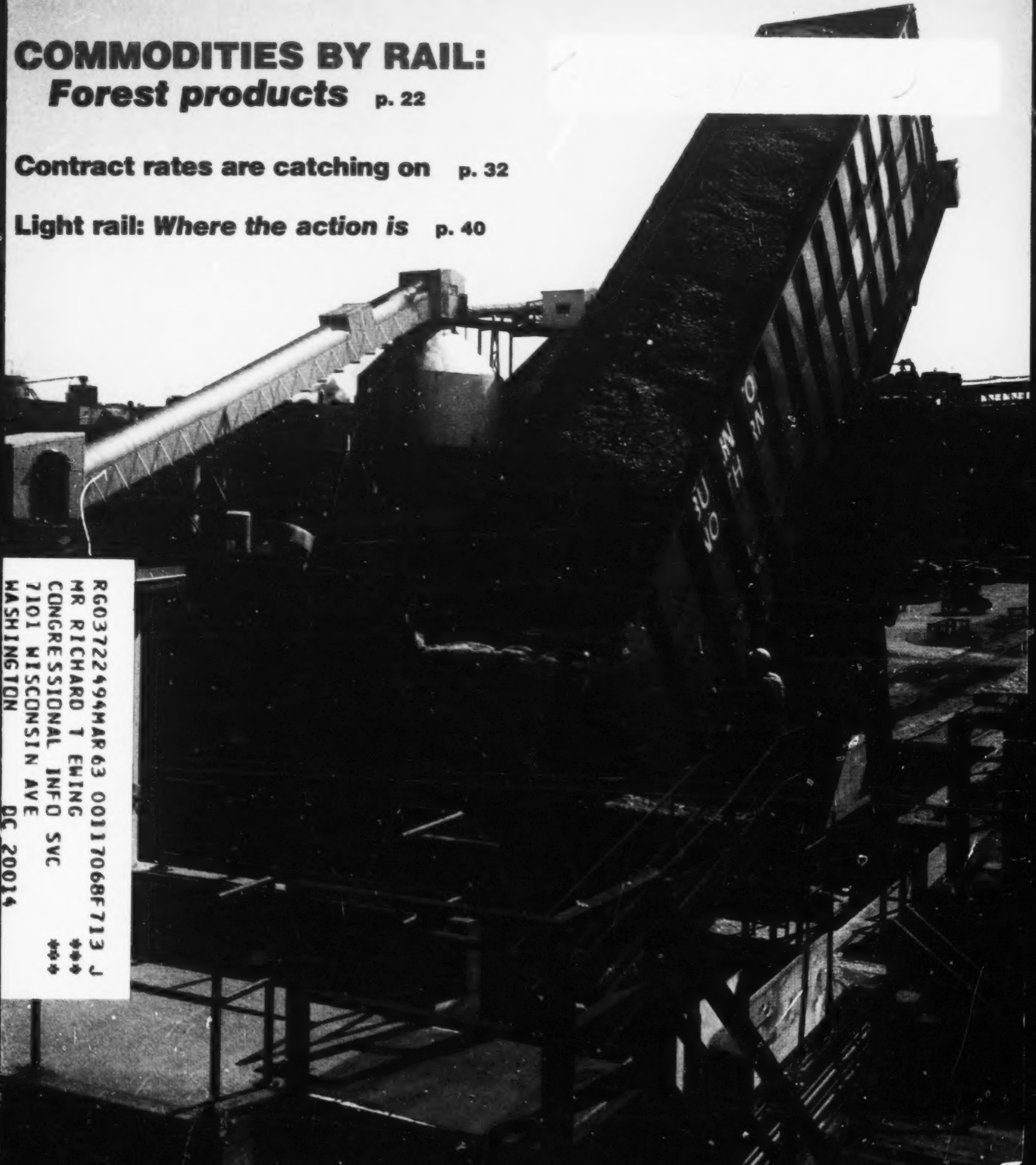

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Inside

LUTHER S. MILLER

A NIGHT TO REMEMBER

A lot of people deserve credit for the memorable about-face that took place in the U.S. House of Representatives on the night of Sept. 9. That was the night the House passed, at last, a railroad deregulation bill (p. 10).

For a while it has seemed that there would be no deregulation bill this year. The House, in a moment of midsummer madness, had accepted the infamous Eckhardt Amendment, which tore the guts out of the bill—pricing freedom. The Eckhardt Amendment was conceived by Texas utility interests anxious to keep coal rates artificially low; it was subsequently embraced by other big shippers trying to hitch a ride on the low-rate gravy train. For weeks it was the good guys vs the Texans, and not many days ago it seemed that the good guys would finish last.

But on Sept. 10 the House threw out most, though not all, of the offending Eckhardt language. The bill that finally came out of the House, while far from perfect in railroad eyes, nonetheless represented "a major step forward in removing regulation from the industry," as Conrail Chairman Edward Jordan put it.

Much of the credit must go to New Jersey Representative James J. Florio, the bill's floor manager, who worked tirelessly for a compromise but insisted on one that did not compromise the basic thrust of the legislation. The Carter White House also gets an A-plus on this one. No fewer than 100 telephone calls went from the White House to Capitol Hill in support of the bill—half a dozen of them from the President.

High on the credit list goes the Association of American Railroads, which came out fighting at the critical hour and did a thoroughly professional job. The AAR and the four brotherhoods, in an unusual show of unity, cosigned full-page ads in the two Washington newspapers. AAR President William H. Dempsey sent mailgrams to all members of Congress (except the Texas delegation) setting out the deregulation arguments. Meanwhile, the AAR's public affairs department packaged up key newspaper and magazine editorials backing the bill, and these went to Congress with another Dempsey letter. One editorial, from *Business Week*, concluded with words that might have given pause even to the Texas delegation: "Unless the rails get the right to set rates that will cover costs, there won't be anyone to haul coal for the Texas utilities."

When the vote came, it was lopsided: 337 for deregulation, 20 against. "Tuesday evening," said AAR Public Affairs Vice President Larry Kaufman, "saw a lot of happy people here."

BN AND SAN ANTONIO: A CAUTIONARY TALE

Burlington Northern, which has borne the brunt of the utility interests' attack (although BN's coal rates are substantially below the industry average), is beginning to wonder if it can continue to invest heavily in coal-hauling capacity without assurance of a reasonable return on that investment. "We will be very careful about future investments in coal," BN President Richard M. Bressler told coal shippers in Denver Sept. 9. "BN has other good investment opportunities."

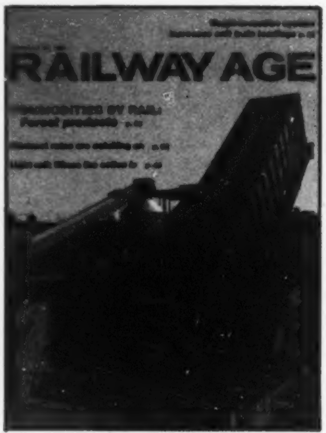
BN was the one railroad on the AAR board that found the new deregulation bill unacceptable—and no wonder. The bill would permit Congress to legislate rates for a single coal movement—to San Antonio. That's a BN haul.

If San Antonio wins this one, it could prove to be a costly victory.

RAILWAY AGE

September 29, 1980

FEATURES



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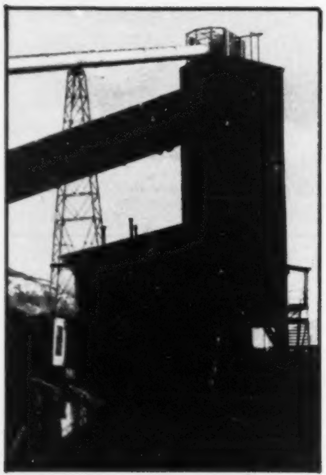

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COVER: Burlington Northern unloads wood chips at Scott Paper, Everett, Wash. Photo by Hedrich-Blessing.

COMMODITIES BY RAIL

A totally bleak picture?

The recession has whittled away at carloadings, but a survey of major forest products haulers turns up some unexpected bright spots—and considerable optimism for the near future.

By GUS WELTY, Senior Editor

Forest products traffic isn't really the Rodney Dangerfield of the railroad commodity mix. True, it may lack the punch of piggyback, of 10,000-ton unit coal trains, of solid trains of grain-hauling jumbo covered hoppers, or (in better years than this) of long strings of loaded autoracks. But forest products traffic does get respect—as well it should, when you consider that trees and the things made from them consistently contribute between 2.5 million and 3 million to major railroads' carloadings, and that the profitability of this traffic has been substantially upgraded in recent years.

Even in recession-year 1980, the scene is not as bleak as might have been expected: Major roads' loadings of lumber and wood products have been running about 22% below 1979 levels, mainly because of the continuing slump in the housing industry, but, all things considered, movements of primary forest products and of pulp, paper, and allied products have held up well, with declines of less than 4% on primary products and of less than 2% overall in the pulp-paper-allied category.

In most instances, revenues are up even though loadings may be down, and with hardly an exception, roads that are biggest in the forest products market are optimistic about future traffic and its profitability. Carriers serving the South-Southeast see the brightest prospects; those operating out of the Pacific Northwest are staking out a somewhat more cautious position.

Only a handful of Class I roads would be regarded as "major" in terms of traffic originations, but the revenue impact of forest products traffic is pervasive. For example, if you were to take a guesstimate poll as to which railroads would be least inclined to worry about tree traffic, chances are that Grand Trunk Western would come in close to the top. Yet, forest products comprised GTW's third-highest revenue-producing commodity last year, ranking far behind motor vehicles and parts, of course, but running behind fuel and chemicals by less than $1 million.

Here's what some of the "majors" in originating traffic are thinking about what has been happening and about what is likely to happen:

Southern Pacific's carloadings of logs and chips are up by about 3% as paper mills have had to reach out farther to acquire chips because closer-in timber cutting has been reduced, while lumber loadings are down by about the industry average of 22%. Near-term and long-term, however, SP says it continues to be optimistic about the market, assuming that no fundamental changes occur in its structure.

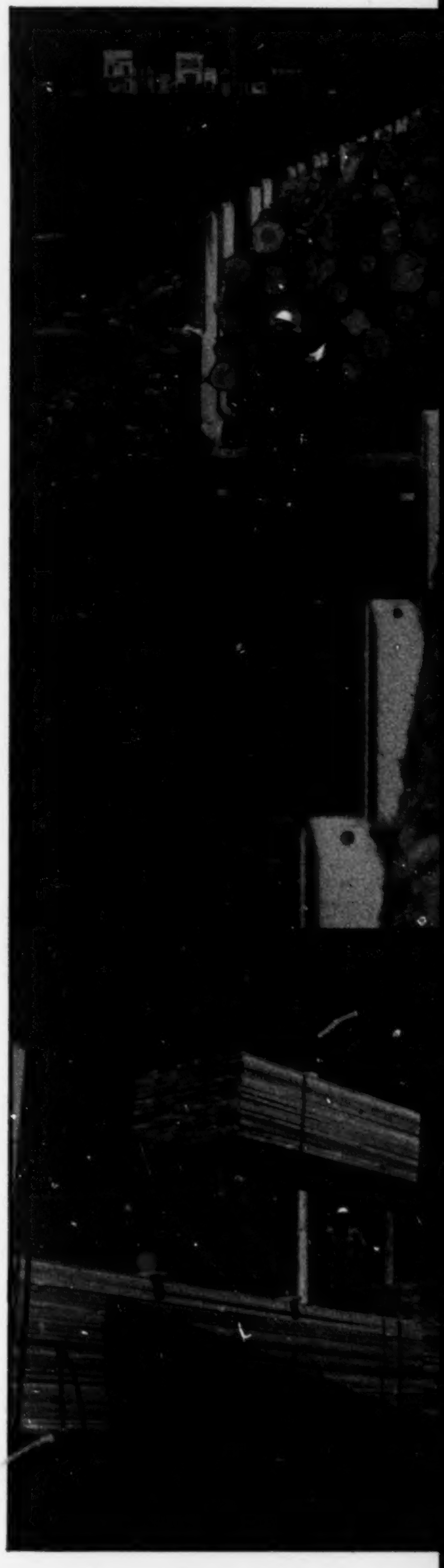
SP is relying in part upon the fuel efficiency of the rail mode; it is also counting heavily on a recently inaugurated ValueTrak program which, among other things, is helping reposition cars into the Pacific Northwest for loading with forest products. "Historically," says a spokesman, "SP has shipped empty cars into the Northwest for loading, and it's anticipated that ValueTrak and other backhaul programs we plan will substantially alter this pattern."

Improved schedules and performance are providing better dock-to-dock service, SP says, and for the future the road looks to "increasing the the scope of ValueTrak and expanding contract rate programs to help increase market share."

Soo Line's forest products numbers are smaller, naturally, but not its dependence on this kind of traffic. Last year, 25% of Soo's freight revenues started out with a tree. This year, Soo has seen healthy increases in loadings of chips and waste paper, lesser gains for pulpwood, pulp mill byproducts, printing paper, and pulpboard, and declines in just about every other tree-related products.

Long-term, Soo looks for continued strength in chips and pulpwood because of paper mill expansions and the likelihood that more new mills will be built. The railroad sees continued high demand for printing paper and pulpboard, and it forecasts development of new markets for pulp mill byproducts as a result of environmental concerns. But as for lumber, shingles, plywood, and other products heavily dependent upon the housing market, Soo is more cautious—figuring that 1981 could be a good housing year if mortgage rates become reasonable but not really figuring on a traffic upturn before the second half of the year.

Burlington Northern's outlook is decidedly mixed, with (depending upon what specific forest commodity product you're talking about) continued strong



Look again

BURLINGTON
NORTHERN

Carloadings: The five-year trend

	Primary forest products	Lumber and wood products	Pulp, paper and allied products	Total
1975	1,023,000	607,000	1,015,000	2,645,000
1976	1,139,000	670,000	1,101,000	2,910,000
1977	1,111,000	675,000	1,102,000	2,888,000
1978	1,086,000	649,000	1,094,000	2,829,000
1979	1,055,000	597,000	1,097,000	2,749,000

Source: Car Service Division, AAR

export demand, diversion to piggyback and or over-the-road trucking (the latter for under-200-mile moves), increased use of private railcars and trailers, a decline in longest-haul transcontinental markets (for woodpulp), continued regionalization of production in some areas, and the possibility that some now-closed mills in the Northwest may remain that way.

BN, however, seems determined to explore the options open to it, and that's probably a good idea: Lumber alone put $300 million into the till last year, and while lumber loadings and revenues are down this year, a number of other segments of the market are showing revenue gains despite traffic declines, and BN has been up in both loadings and revenues in paper traffic.

Then, there is the South-Southeast territory; rail carriers there are as bullish on forest products business as Merrill Lynch is on America.

Illinois Central Gulf hasn't had a great year in terms of loadings, but in terms of revenues ICG will take it: Gross revenues are up substantially, and, while other roads talk in generalities about improving revenues and profitability, ICG gets very specific and has quids pro quo to justify its numbers. For example, since 1974 ICG "has actively pursued a program to increase rates on pulpwood and woodchips, to transform a historically unprofitable commodity into a profitable one. This has been a necessity in order to justify acquisition of equipment to replace retired cars. Through 1980, rates on pulpwood have had increases totaling 77.8% and rates on woodchips have been increased by 85.6%. To date, as a result of these agreements, ICG has added 425 pulpwood racks and 800 woodchip hoppers to the fleet at a cost of $28 million, and this expansion has allowed us to meet the growing demand for transportation of these commodities."

Rates have also gone up on such commodities as light-loading papers, waste paper, and wallboard, by much smaller percentages, and the road vows to continue to seek rate hikes on marginal (or worse) traffic.

While shippers may be paying more, they're benefiting more: For movement of lumber and wood products, ICG says it was the first in the industry to convert an entire bulkhead flatcar fleet from chain tiedowns to constant tensioning devices, thus saving both money and time because chains were not lost and cars were not delayed because tiedown devices had to be replaced. For movement of heavy-loading paper, ICG has under way a program to dedicate its fleet of high-cube 50-foot boxcars to this service, increasing per-car tonnage by as much as 25%. For movement of forest products generally, ICG is going strongly into coordinated interline services "such as the 'Link' with Conrail to increase market share. These services provide ICG with its longest haul and highest revenues while offering customers superior rail service."

What's ahead? ICG breaks it down by major product categories:

For primary forest products, in addition to continuing existing programs, "ICG is pursuing the use of computerized data in the production of timely and accurate turn-time reports which would allow both ICG and shippers to better pinpoint areas in need of improvement. Attention given to correcting these identified problem areas will result in faster turn-times, and this will contribute to improved profitability through a reduction in costs and increases in loads and trips per car."

On lumber and wood products, the road's marketing people note that a lumber distribution center in the Midwest "is currently in the planning stage....This center, when operational, would have the capability of serving a market within a 200-mile radius, offering customers reduced inventory costs through fast, reliable rail service to the distribution center and truck-size order quantities for delivery to the ultimate destination."

For paper and allied products, ICG looks to expansion of programs to provide additional revenue and loads, calling attention to a program under way "to develop backhauls for equipment now moving empty for paper-loading in the headhaul direction. This program will reduce empty-return ratios, provide additional revenue and profit, and reduce the number of boxcars needed to meet a growing demand."

Frisco, like Soo Line, doesn't have the big numbers of some of its larger neighbors, but Frisco has been showing sizable gains, is ahead this year in the pulp-paper-allied grouping, and has excellent prospects for the future. As one traffic officer puts it, the long-range outlook "varies between uncertain and bullish." The uncertainty has to do with the forest products and lumber area, severely impacted by what has happened to the general economy.

One area that is showing some strength is southern pine, as this market expands. And the traffic future for pulp, paper, and allied products is strong on the Frisco, with several paper mills in various stages of expansion: "Innovative moves affecting us and the paper industry have included the use of boxcars on three-way moves to further increase utilization, the use of high-cube boxcars for optimum loading, and new experimental methods of loading pulpwood."

Southern, in its observations on the present and the future, brings in a couple of other points. For now, its marketing people note, "paper business has continued strong in spite of the recession, and the movement of pulpwood and chips has continued to be very strong. There have been weaknesses, which will continue, in the whole lumber market due to the present situation in the construction industry."

For the future, however, Southern sees "continued growth in the total forest products industry field as a function of improved forestry practices throughout our service territory plus increased large mill lumber and plywood production. The marketing efforts of the yellow pine industry are moving them back into their historic markets in the Midwest and East, and we also expect continued growth of the paper industry in our service territory."

Then there's this: "We are working with motor carriers to reduce the cost of distribution of lumber by making a long-haul movement on chain flatcars and a short-haul move by motor carrier to the ultimate customer. We continue to maintain and increase our fleet of chain lumber flatcars, woodracks, and chip cars as determined by our forecasts of industry need. We've been able to reach agreement with the paper industry on rate levels that will support the acquisition of additional woodracks and woodchip cars, and our marketing effort related to the movement of pulpwood and wood chips holds incentives for the producers and the paper companies to improve equipment utilization. Very close communications have been established between the marketing and transportation departments of Southern and the paper industry related to maintaining a reliable service and improving it where the cost/benefit relationship will justify this."

Family Lines, serving mills from Indiana to Florida and from Mississippi to Virginia, claims title to the No. 1 ranking among haulers of paper and allied products, and for the Family roads this year has been another good, if not great, one. Through eight months, the numbers show a slight increase in carloads, with a more substantial gain in revenues. Beginning in July, Family Lines did see some softening in certain domestic markets, but this was largely countered by strength in export demand.

Seaboard Coast Line and Louisville & Nashville remain optimistic about what may happen when the basic economy turns around: "As the paper industry entered the current downturn, a definite policy was adopted of holding inventories at a low level rather than building inventories unduly as was the case in the recession of four or five years ago. As a result, we feel that the paper industry is lean, and that a quick pickup will follow any increase in domestic demand."

This is not to say, of course, that the recession is not continuing to bring problems: "As the recession goes on, one of our growing difficulties is the increased aggressiveness of trucking companies in reducing rates and competing for tonnage which heretofore they did not particularly seek. The truck lines are desperately looking for backhauls, as well as for ways and means of keeping busy the equipment idled by the downturn in consumer items. We're meeting this competition with specific rate publications, where that can be done advantageously."

As for the long term outlook, going even beyond the leanness of the paper industry, Family Lines' marketing people point out that "the demand for paper products is growing on a per capita basis, especially abroad, and the American paper industry is in a good position to enjoy high levels of production for the next several years. The segment which we serve in the South is basically more modern and more efficient than in many other parts of the country, and we expect added impetus because of this."

Forecasts for Family Lines' biggest volume traffic, pulpwood and chips, look good, and—like SP—Family Lines sees fuel prices having an effect: "The growing cost of petroleum is tending to increase the reliance of the paper companies on the railroads for transporting their basic raw materials, and we're attempting to increase our capacity to do this, as well as to improve the profitability of the traffic."

Meanwhile, the outlook for the construction industry is also beginning to improve. With some moderation in interest rates, market analysts see a 1981 strengthening in housing starts, with the possibility that starts will approach an annual adjusted rate of two million-plus units in 1982.

Part of Family Lines' approach to building the traffic and making it more attractive has involved an internal restructuring. About two years ago the system created within its sales/marketing department groups with specific and total responsibility for sales, marketing, pricing, planning, and equipment and service liaison. Family Lines notes that it is possible to respond "more quickly and more intelligently when all elements of a market are included within a single group and when that group has been given not only the responsibility but the authority to accomplish the things necessary to improve our position." One illustration: Publication of reduced rates to encourage backhaul of scrap paper in boxcars assigned to paper mills, cars which otherwise would be returning empty.

In addition, Family Lines is using incentive rates for heavier loading, it has introduced 100-ton, 60-foot, high-roof boxcars for high-roll paper loading, and it is continuing its analyses of car assignments not only to ensure that assignments are productive but also to make certain "that the cars actually assigned are those best suited to the customer's needs and most likely to encourage the heaviest-possible loadings."

On an interterritorial basis, the system has joined with western carriers to establish reduced incentive rates on lumber and wood products moving from the West into the Southeast. These rates will reduce overall freight charges and should also encourage heavier loading, improve equipment utilization, and increase market share.

For lumber traffic, Family Lines has acquired additional equipment (through Trailer Train). It has also equipped its entire lumber car fleet with constant tension load-securement devices. Rates on primary forest products have been increased as an aid to the allocation of capital for purchase of additional equipment, and there has been a strong emphasis placed on improved fleet management, by customers and by the railroad's own operating department. To further improve utilization, Family Lines has set up incentive rates to encourage faster loading and unloading.

Like a number of other roads, Family Lines is now looking at contract rates in the forest products area: "We might be able to make contractual stipulations that will assure equipment supply or service levels, rate stability, switching performance, or other major items of mutual interest to our customers and ourselves." It is even giving some thought to broader operational changes, though these could be tough to bring about: "Our increasing fleet capacity will permit greater consideration to be given to trainload movements or other volume-related economies. It should be emphasized, though, that most of this traffic moves in local train service, with many of the movements involving two or more local trains, and it's difficult to conceive of unit-train or trainload possibilities which will not also involve duplicating existing train service and increasing costs."

● **Future traffic.** This whole area of forest products transportation is another one of those areas where the future is only partly up to the railroads to determine. For example, some western roads are concerned about the effects of increasing truck weight limits in states that are now below federal limits. Some roads wonder how patterns may change if forest products exports moving through both West and East Coast ports continue to grow. But even more basic may be the production shifts that have been taking place and will quite likely continue to take place—shifts that are giving the South-Southeast the preeminent spot so long enjoyed by the Pacific Northwest (where British Columbia has been coming on strong as a primary forest products supplier while other areas have been having their problems).

Illinois Central Gulf, for one, looks at the prospects rather bluntly as regards its participation in lumber and wood products traffic, and it comes out this way:

"ICG is strategically located in the heart of the southern lumber-producing area and is positioned to capitalize on opportunities for growth in this market. It's expected that through our planning period and beyond, this southern region will satisfy the majority of total lumber demand, while the Pacific Northwest is expected to show little growth in future production.

"Ownership patterns in these two regions help in the explanation of these production growth trends. The majority of western lumber land is owned by the federal government and is subject to regulations such as stumpage quotas and strict environmental standards. The southern lumber resources, however, are almost completely in the hands of private landowners actively engaged in the lumber business."

Then, carrying out the theory that the South shall rise again, there is this: The southern region "enjoys a more favorable growth cycle than that experienced in the Pacific Northwest. In addition, new technologies have been advanced which allow the use of southern grades of lumber in applications historically reserved for western species lumber." ■

Market

CARLOADINGS

Loadings of revenue freight in the week ended Sept. 6 totaled 389,295 cars, according to the Association of American Railroads. This was a decrease of 31,721 cars, or 7.5%, compared with the corresponding week last year. Both weeks included the Labor Day holiday. Ton-miles generated by carloadings in the week ended Sept. 6 are estimated at 16.0 billion, a decrease of 0.6% below the corresponding week of 1979.

REVENUE FREIGHT CARLOADINGS

Commodity	**Sept. 6 week**	**Aug. 30 week**	**Aug. 23 week**
Grain	29,510	33,205	32,850
Farm products	2,756	3,651	3,877
Metallic ores	26,765	28,344	27,951
Coal	106,366	117,074	117,366
Crushed stone, gravel & sand	12,545	14,511	14,685
Nonmetallic minerals	14,955	15,407	16,256
Grain mill products	15,235	17,798	17,141
Food and kindred products	16,010	19,135	18,532
Primary forest products	15,951	19,630	19,885
Lumber & wood products (except furniture)	7,182	10,141	9,543
Pulp, paper & allied products	17,810	20,661	20,138
Chemicals & allied products	23,145	28,311	25,932
Petroleum products	4,894	5,442	5,444
Stone, clay & glass products	15,082	16,202	15,989
Coke	3,612	4,104	3,885
Metals & products	11,896	14,498	13,240
Motor vehicles & equipment	12,088	12,877	12,982
Waste & scrap materials	9,133	11,267	10,989
Forwarder & shipping assn. traffic	9,573	11,546	10,864
All other carloads	34,643	42,251	41,151
LCL traffic	144	239	214
Total cars loaded	**389,295**	**446,394**	**438,914**

	1980	1979
Cumulative total, 36 weeks	**15,590,161**	**16,449,767**
Estimated revenue ton-miles (billions), 36 weeks	**613.5**	**605.2**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Aug. 30 totaled 33,355 cars (11.5% below the corresponding 1979 week) and 61,196 trailers or containers (down 7.0% from 1979 week) and 61,196 trailers or containers (down 7.0% from 1979). Cumulative volume for the first 35 weeks of 1980 is 1,119,700 (down 10.7% form 1979) and 2,040,201 trailers or containers (down 7.8% from 1979).

CANADIAN CARLOADINGS

Canadian railway revenue freight loaded in the seven-day period ended Aug. 7 totaled 4.8 million tons (down 0.1% from 1979). Cars loaded totaled 65,793 (down 4.4% from 1979). Cumulative loadings for 1980 were up to 159.1 million tons (up 4.6% from 1979).

- *Amtrak.*—Will invest $1 million in a new locomotive overhaul facility at its Beech Grove, Ind., shops. Construction will begin this fall and is to be completed early next summer. About 75% of Amtrak's locomotive overhauls are performed at its New Haven, Conn., shop, which is now at capacity; the remaining overhauls are performed at contract shops. Amtrak expects to overhaul 10 locomotives a year at the new facility at a saving of approximately $25,000 per unit.

- *Missouri-Pacific.*—Has budgeted $148 million for acquisition of 100 diesel-electric units, 2,200 freight cars and other equipment in 1981. Included in the car program are 500 100-ton covered hoppers, 500 100-ton gondolas, 300 100-ton open-top hoppers, 100 100-ton coil steel cars, 200 special-purpose cars, 50 air dump cars, 50 cabooses, and 500 40-ft trailers for piggyback and over-the-highway service. The locomotive program calls for 45 2,000-hp units, 20 3,500-hp units, 20 1,500-hp units, and 15 2,250-hp units.

- *Southwestern Electric Power Co.*—Ordered 484 110-ton, 4,000-cubic-foot-capacity, high-side, rotary dump gondola cars from the Railcar Division of Evans Products Co.'s Transportation Systems & Industrial Group.

- *Freight cars and locomotives.*—The following report has been received from the AAR and the ARCI:

DELIVERED

	July		**June**	**Seven months**	
	1980	**1979**	**1980**	**1980**	**1979**
Built new by carbuilders	5,455	5,608	7,521	51,014	47,393
Built new in RR shops	435	554	381	3,214	3,202
Built new—total	5,890	6,162	7,902	54,228	50,595
Rebuilt	4	90	106	905	518
TOTAL DELIVERED	**5,894**	**6,252**	**8,008**	**55,133**	**51,113**
Locomotives (new and rebuilt)	167	100	178	1,200	953

ORDERED

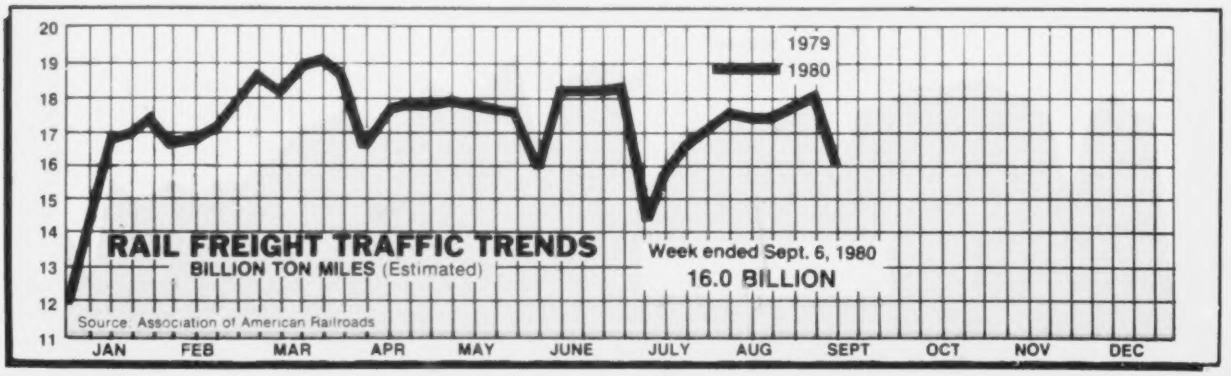
To be built new by carbuilders	3,393	6,293	3,144	25,102	77,698
To be built new in RR shops	0	700	0	4,312	2,271
To be built new—total	3,393	6,993	3,144	29,414	79,969
To be rebuilt	0	84	0	869	454
TOTAL ORDERED	**3,393**	**7,077**	**3,144**	**30,283**	**80,423**

ON ORDER AND UNDELIVERED

	Aug. 1		**July 1**	**Average Backlog**	
	1980	**1979**	**1980**	**1980**	**1979**
To be built new by carbuilders	67,934	119,793	71,701	87,626	111,622
To be built new in RR shops	7,350	5,380	7,785*	6,595	5,605
To be built new—total	75,284	125,173	79,486*	94,221	117,227
To be rebuilt	64	23	68	371	102
TOTAL ON ORDER	**75,348****	**125,196**	**79,554***	**94,592**	**117,329**
Locomotives (new and rebuilt)	517	912	787	1,004	1,117

* Revised figures

**Due to revisions and cancellations, the backlog has been reduced by 1,705



RAIL FREIGHT TRAFFIC TRENDS

BILLION TON MILES (Estimated)

Week ended Sept. 6, 1980

16.0 BILLION

Source: Association of American Railroads

10/20/80 C 2400-1 U

Chicago Transit's Barnes: Helping to turn the tide

October 13, 1980

RAILWAY AGE

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Classification yards

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Inside

LUTHER S. MILLER

CLASSY CLASS YARDS

The classification yard—where it is, where it's going—is the subject of the ninth in our series of special reports on railroad technology (p. 16). For this report, Senior Editor Gus Welty visited the newest and perhaps most sophisticated of the automated yards—Chessie's Queensgate facility at Cincinnati—and Associate Editor Frank Malone revisited CP Rail's Alyth Yard at Calgary, Alta., which early in the '70s had the highest degree of yard automation to be found anywhere in the world.

Gus Welty's story describes in some detail what Chessie has done to deprive Cincinnati of the title bestowed on it a few years ago by a local newspaper: "The most confusing rail center in the world."

Frank Malone, meanwhile, describes what CP Rail is doing at Calgary to ensure that Alyth continues to be the model for yard planners that it has been for nearly a decade.

When he filed his Queensgate story, Gus sent along some personal observations from Cincinnati:

"It's fascinating how many big, medium-size, and small-size things go into a yard job. Big? In order to take maximum main-line advantage of what the yard will do, there was a ctc installation to make. Medium-size? Chessie found a way to use coal cars both ways, delivering coal to Middletown, Ohio, and bringing slag ballast back for the yard. Small? Chessie noted that some roads were having trouble keeping car inspection/repair vehicles in service—the little carts that run up and down the receiving tracks with brake shoes, oiling equipment, and so forth. So Chessie ordered modified military vehicles, which are designed to survive parachute drops from aircraft. They even have loops on the wheel hubs where the drop-hooks would be attached. If these little trucks don't survive, then we'll know for sure that railroading is tougher than war."

THE SEARCH FOR ALTERNATE FUELS (Cont'd.)

Railroads will spend close to $4 billion this year for diesel fuel; only labor will take a bigger single bite out of the revenue dollar. This has led, not surprisingly, to a broadening search for cheaper ways to fuel locomotives.

One of these was described in our Sept. 8 cover story on the work now under way at the Southwest Research Institute in San Antonio, Tex. The question SwRI is pondering is whether today's diesels can be modified to burn something less costly than "pure" diesel fuel—and what this fuel will be.

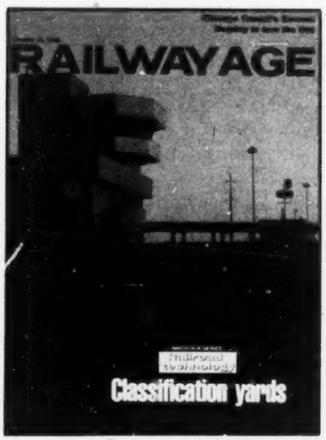
Electrification is another obvious way to escape the coils of OPEC; where the money is going to come from to pay for any large scale conversion to electric traction is not so obvious. The Federal Railroad Administration has now come up with a rather blurry blueprint for electrifying 26,000 miles of main line at a cost of $20 billion, to be shared by railroads, utilities, and the federal government. This proposal—which smells at least slightly of election-year politicking—is described on page 12.

And then there's American Coal Enterprises, Inc., a newly formed company that thinks there's a still more obvious answer: coal. ACE recently unveiled a detailed blueprint of "an energy efficient, environmentally safe, coal-fired locomotive." Associate Editor John Armstrong describes what it will take to bring the ACE 3000 to prototype, in the story that starts on p. 36.

RAILWAY AGE

October 13, 1980

FEATURES



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Railroad technology: Classification yards

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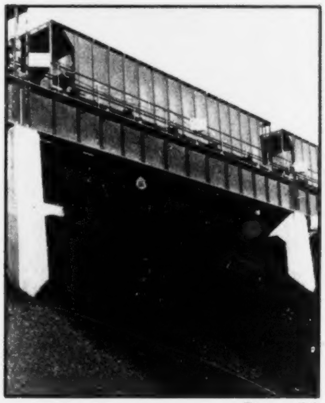
21 Queensgate quickens the pace in Cincinnati
26 Alyth: Remodeling a model yard

32 Ortner: A success story with a Southern accent
Ortner's 10,000th Rapid Discharge car is being delivered, appropriately, to the Southern Railway, which has more than 900 of the cars in service.

36 Solid-fuel railroading in the '80s?
Promoter Ross E. Rowland, Jr., is trying to raise $25 million to build two prototypes of the ACE 3000, a coal-burning locomotive designed to save one-third of the diesel's fuel bill.

38 Chicago Transit's Barnes: Helping to turn the tide
CTA's new chairman sees public policy turning again toward mass transit, and he's using his political skills—both at the local level and as APTA's vice president for government affairs—to help bring about the change.

40 Boyd: "I am bullish on railroads. However..."
Amtrak's president sees busy, fruitful years ahead for freight and passenger trains—unless the federal government continues to throw "huge sums of money into other modes of transport which are no longer energy efficient."



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COVER: Across-the-hump view of administration building with top-floor control room at Chessie System's new Queensgate Yard, Cincinnati.

REVENUES AND EXPENSES OF RAILWAYS

Second quarter figures of calendar year 1980

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

		Operating revenues				Operating expenses														
						Way & structures			Equipment											
		Freight	Other	Total 1980	Total 1979	Total 1980	Total 1979	Deprec.	Total 1980	Total 1979	Deprec.	Total 1980	Total 1979	Operating ratio 1980	Operating ratio 1979	Income after fixed charges 1980	Income after fixed charges 1979	Net Ry. operating income	Net income 1980	Net income 1979
Amtrak	3 mos.	–	278,303	278,303*	252,578*	16,096	16,745	966	84,290	67,292	13,176	284,706	246,320	102.30	97.52	(15,652)	(2,113)	(6,402)	(15,652)	(2,113)
	6 mos.	–	534,780	534,780*	480,665*	32,589	33,258	1,337	166,027	129,664	25,901	550,017	479,435	102.84	99.74	(31,329)	(14,916)	(15,238)	(31,329)	(14,916)
Atchison, Topeka & Santa Fe	3 mos.	518,668	11,587	530,255	461,455	99,014	81,252	3,217	114,434	95,482	19,611	496,588	408,865	93.65	88.60	27,498	50,820	28,620	22,201	38,696
	6 mos.	1,017,495	24,176	1,041,672	866,129	178,630	148,967	6,359	229,068	186,202	38,524	976,370	783,610	93.73	90.47	54,149	77,688	54,239	42,584	61,259
Baltimore & Ohio	3 mos.	230,576	8,738	239,314	251,881	53,307	44,155	1,708	52,359	59,561	6,798	226,798	224,646	94.77	89.18	11,139	23,265	15,675	14,108	18,860
	6 mos.	453,543	17,920	471,464	452,435	85,707	72,771	3,391	110,293	110,222	13,701	443,415	419,210	94.05	92.65	23,315	29,269	27,849	22,739	24,088
Bessemer & Lake Erie	3 mos.	29,070	3,734	32,804	33,427	4,014	3,082	676	4,320	6,177	1,201	19,784	20,037	60.31	59.94	13,928	13,366	6,460	7,370	6,886
	6 mos.	46,324	5,583	51,907	52,062	8,236	5,723	1,366	9,272	10,374	2,351	40,079	36,894	77.21	70.86	14,097	15,651	5,478	7,749	8,122
Boston & Maine	3 mos.	26,820	2,261	29,081	28,394	5,148	5,097	276	6,783	7,110	603	27,839	26,759	95.72	94.24	1,664	2,140	1,301	(1,260)	(1,064)
	6 mos.	53,165	3,860	57,025	53,547	10,212	9,902	551	14,574	14,860	1,206	56,495	52,855	99.07	98.70	1,536	1,479	649	(3,987)	(2,285)
Burlington Northern	3 mos.	670,243	20,893	691,136	620,980	150,536	124,699	5,265	151,473	138,601	16,288	657,267	563,163	95.09	90.68	40,733	67,573	34,692	41,547	68,626
	6 mos.	1,325,075	45,928	1,371,003	1,115,208	244,884	207,444	10,479	295,504	260,466	32,799	1,258,586	1,041,107	91.80	93.35	136,732	99,448	93,707	117,992	109,018
Chesapeake & Ohio	3 mos.	243,536	13,431	256,967	211,050	49,767	38,741	1,434	50,816	44,341	3,693	217,478	187,926	84.63	89.04	56,330	42,009	26,315	43,118	38,885
	6 mos.	442,377	22,178	464,555	382,684	81,007	64,417	2,923	101,442	90,837	6,965	410,805	359,522	88.42	93.94	83,194	49,523	34,817	64,164	45,970
Chicago & North Western	3 mos.	194,316	23,099	217,415	186,436	50,526	35,618	916	56,174	50,574	4,542	221,600	181,779	101.92	97.50	(11,134)	(176,372)	(3,022)	(11,170)	237
	6 mos.	387,137	44,317	431,454	340,672	87,941	73,597	1,820	111,055	105,371	9,045	431,682	368,977	100.05	108.30	(9,211)	(38,004)	932	(9,285)	(37,177)
Chicago, Milwaukee, St. Paul & Pac.	3 mos.	73,485	12,449	85,934	116,887	108,516	23,730	373	35,174	42,193	4,687	204,233	137,985	237.66	116.05	(61,238)	(15,172)	(118,687)	(79,528)	(15,172)
	6 mos.	166,803	25,580	192,383	210,427	151,470	43,997	1,414	78,309	90,975	9,647	367,957	277,497	191.26	131.87	(99,724)	(59,053)	(175,922)	(120,372)	(59,053)
Clinchfield	3 mos.	23,566	308	23,873	15,577	3,879	3,356	107	3,670	3,187	923	16,464	13,316	68.96	85.48	5	96	7,930	–	–
	6 mos.	42,656	624	43,279	30,351	7,366	7,093	214	6,681	6,755	1,842	31,369	27,201	74.47	89.62	5	171	12,877	–	–
Colorado & Southern	3 mos.	30,556	541	31,096	21,557	6,093	5,393	59	6,377	4,773	712	29,559	22,210	95.05	103.02	5,773	1,846	1,295	5,531	2,689
	6 mos.	59,301	1,394	60,695	40,987	10,698	8,878	117	13,732	9,821	1,420	56,450	39,307	93.00	95.90	13,095	8,906	5,360	14,210	10,088
Conrail	3 mos.	791,132	155,401	946,533	994,586	211,131	232,377	3,202	271,097	271,992	22,785	1,054,147	1,068,140	111.36	107.39	(114,719)	(67,987)	(107,011)	(114,252)	(67,503)
	6 mos.	1,593,925	318,544	1,912,469	1,853,436	358,450	397,360	6,321	551,101	553,531	45,049	2,098,991	2,064,629	109.75	111.39	(194,586)	(204,887)	(184,912)	(193,271)	(204,007)
Delaware & Hudson	3 mos.	29,551	425	29,976	24,755	4,906	4,394	154	8,559	8,115	339	29,848	26,418	99.57	106.71	(307)	(1,937)	130	(307)	(1,937)
	6 mos.	57,609	1,039	58,648	47,636	9,200	8,278	308	17,373	15,695	743	59,252	50,820	101.02	106.68	(1,907)	(4,214)	607	(1,907)	(4,214)
Denver & Rio Grande Western	3 mos.	65,589	1,691	67,280	68,249	11,831	12,438	604	10,190	10,473	2,888	58,540	54,867	87.00	80.39	7,261	13,466	6,154	4,639	8,293
	6 mos.	133,133	2,949	136,082	124,497	23,262	23,263	1,204	21,609	19,969	5,659	118,349	103,298	86.96	82.97	15,019	21,727	12,588	9,803	13,934
Detroit, Toledo & Ironton	3 mos.	17,205	855	18,060	21,879	3,051	4,083	174	5,949	5,793	467	19,857	20,313	109.94	92.84	(2,078)	1,504	(1,568)	(1,860)	1,504
	6 mos.	36,598	2,028	38,626	44,064	5,411	6,590	349	11,813	11,407	938	39,414	39,013	102.03	88.53	(1,195)	4,872	(546)	(977)	4,872
Duluth, Missabe & Iron Range	3 mos.	43,413	1,884	45,297	25,999	13,011	6,102	1,891	3,217	2,836	1,370	35,688	18,342	78.78	70.54	11,547	7,925	4,211	6,144	3,861
	6 mos.	58,585	2,332	60,917	42,267	19,234	10,776	2,957	3,076	5,621	2,052	50,870	35,706	83.50	84.47	12,988	7,197	4,143	7,052	3,241
Elgin, Joliet & Eastern	3 mos.	18,995	10,831	29,826	40,945	4,020	3,623	183	4,150	5,734	1,038	26,300	27,606	88.18	67.42	6,060	14,601	742	3,277	7,780
	6 mos.	37,546	23,538	61,084	76,666	7,395	7,724	361	9,260	12,358	2,095	52,538	56,787	86.00	74.07	13,214	22,214	2,483	7,151	11,809
Florida East Coast	3 mos.	22,322	677	22,999	18,431	4,334	4,001	231	3,758	2,300	1,035	16,905	14,457	73.50	78.44	8,053	26,635	3,531	5,491	18,871
	6 mos.	44,457	1,428	45,885	37,408	9,125	7,996	453	7,234	5,011	2,010	34,410	28,855	74.99	77.13	14,233	32,410	6,527	9,285	22,796
Ft. Worth & Denver	3 mos.	34,976	696	35,672	22,482	5,821	3,195	71	9,203	6,455	132	31,479	19,285	88.24	85.78	3,916	3,103	2,782	2,505	2,350
	6 mos.	65,391	1,578	66,969	43,195	10,363	5,586	139	16,136	11,040	264	55,678	34,448	83.14	79.71	10,986	8,815	7,262	6,957	7,249
Grand Truck Western	3 mos.	43,434	3,202	46,636	58,358	7,548	7,550	418	8,932	15,340	1,356	47,406	53,394	101.65	91.49	(816)	5,670	857	807	5,670
	6 mos.	92,878	7,171	100,049	107,980	12,886	13,204	827	22,711	30,703	2,667	99,799	105,484	99.75	97.68	793	3,442	1,874	2,416	3,442

Illinois Central Gulf	3 mos.	214,622	19,889	234,511	215,601	49,757	41,050	1,666	63,296	56,827	7,193	244,373	213,736	104.20	99.13	(17,529)	16,497	(7,884)	(16,139)	16,028
	6 mos.	443,947	39,244	483,191	399,268	87,044	74,640	3,340	128,323	115,720	14,223	479,971	415,127	99.33	103.97	(11,129)	7,518	4,813	(10,684)	(8,359)
Kansas City Southern	**3 mos.**	**62,956**	**3,636**	**66,591**	**52,393**	**12,742**	**11,084**	**539**	**16,693**	**11,908**	**3,477**	**59,064**	**46,316**	**88.69**	**88.40**	**7,311**	**5,874**	**5,677**	**5,423**	**4,787**
	6 mos.	**125,453**	**8,127**	**133,580**	**102,644**	**23,568**	**20,295**	**1,165**	**31,901**	**23,415**	**6,690**	**116,331**	**91,180**	**87.08**	**88.83**	**16,657**	**10,909**	**12,932**	**12,269**	**9,026**
Long Island	3 mos.	5,589	87,321	92,910	75,777	19,057	20,837	859	17,805	18,077	1,333	93,588	93,995	100.73	110.84	(1,005)	(8,549)	412	(1,005)	(8,549)
	6 mos.	10,550	166,786	177,336	146,131	36,661	38,031	1,698	37,215	35,442	2,636	182,942	161,671	103.16	110.83	(6,132)	(16,053)	(3,446)	(6,132)	(16,053)
Louisville & Nashville	**3 mos.**	**254,444**	**6,515**	**260,959**	**243,260**	**45,839**	**41,630**	**1,613**	**59,534**	**60,744**	**9,577**	**244,285**	**225,343**	**93.61**	**92.63**	**10,689**	**10,080**	**17,144**	**9,908**	**8,939**
	6 mos.	**510,820**	**13,895**	**524,716**	**464,313**	**87,145**	**78,943**	**3,049**	**126,622**	**124,743**	**18,836**	**497,933**	**446,103**	**94.89**	**96.07**	**17,243**	**(720)**	**27,792**	**15,992**	**(2,026)**
Missouri-Kansas-Texas	3 mos.	50,535	2,608	53,143	38,587	8,776	7,597	192	15,567	12,048	644	49,888	39,641	93.87	102.73	1,150	(2,544)	3,399	1,150	206
	6 mos.	97,470	5,533	103,003	75,097	15,116	15,436	468	30,576	22,057	1,383	96,925	76,534	94.09	101.91	2,394	(4,552)	6,724	2,894	(367)
Missouri Pacific	**3 mos.**	**403,915**	**12,186**	**416,101**	**355,747**	**64,549**	**60,454**	**2,436**	**92,270**	**79,467**	**15,185**	**360,432**	**306,685**	**86.62**	**86.20**	**48,727**	**43,402**	**43,755**	**34,423**	**30,843**
	6 mos.	**790,247**	**24,664**	**814,911**	**679,902**	**111,109**	**110,933**	**4,864**	**186,746**	**155,993**	**29,694**	**708,973**	**590,901**	**87.00**	**86.90**	**91,025**	**76,289**	**83,312**	**63,649**	**53,298**
Norfolk & Western	3 mos.	388,026	13,506	401,532	373,734	74,185	59,900	3,301	68,708	67,359	13,367	313,576	290,070	78.09	77.61	97,640	88,614	50,440	59,000	54,605
	6 mos.	743,156	25,518	768,674	697,663	122,905	100,554	6,581	141,780	125,864	26,669	609,942	545,515	79.34	78.19	175,720	159,154	92,791	107,384	101,174
Pittsburgh & Lake Erie	**3 mos.**	**21,400**	**1,176**	**22,566**	**19,961**	**3,297**	**2,865**	**7**	**1,449**	**2,210**	**503**	**15,958**	**15,260**	**70.71**	**76.44**	**3,225**	**4,231**	**5,987**	**2,598**	**2,932**
	6 mos.	**38,739**	**2,747**	**41,486**	**35,222**	**6,086**	**5,525**	**39**	**2,539**	**4,794**	**961**	**30,494**	**29,791**	**73.50**	**84.58**	**4,495**	**4,922**	**9,967**	**3,461**	**3,729**
St. Louis-San Francisco	3 mos.	121,417	3,775	125,191	111,133	21,174	19,970	876	28,574	23,727	3,519	113,835	100,393	90.92	90.33	8,619	7,269	9,655	6,558	5,831
	6 mos.	246,384	7,806	254,191	212,259	41,562	36,398	1,752	57,071	48,087	7,030	228,617	194,668	89.93	91.71	19,804	10,210	21,492	15,005	7,970
St. Louis Southwestern	**3 mos.**	**72,124**	**367**	**72,491**	**68,049**	**13,313**	**10,803**	**358**	**13,637**	**11,925**	**6,078**	**69,483**	**56,029**	**95.85**	**82.33**	**2,357**	**13,610**	**1,978**	**1,327**	**12,531**
	6 mos.	**139,319**	**1,228**	**140,547**	**130,210**	**22,299**	**20,859**	**710**	**22,864**	**21,453**	**12,232**	**126,047**	**105,358**	**89.68**	**80.91**	**12,396**	**27,077**	**10,927**	**8,821**	**25,576**
Seaboard Coast Line	3 mos.	289,954	10,054	300,009	258,338	50,712	45,737	2,170	71,586	60,927	8,707	275,009	232,624	91.66	90.04	45,753	36,397	22,845	43,510	37,185
	6 mos.	582,606	19,564	602,180	505,239	98,757	87,398	4,399	141,552	118,926	17,294	548,642	452,199	91.10	89.50	86,640	56,878	49,113	82,037	57,595
Soo Line	**3 mos.**	**69,631**	**1,513**	**71,143**	**69,946**	**18,255**	**14,179**	**322**	**14,481**	**14,839**	**2,035**	**65,849**	**61,107**	**92.55**	**87.36**	**5,841**	**8,708**	**3,874**	**4,157**	**5,684**
	6 mos.	**148,214**	**3,104**	**151,318**	**128,417**	**28,317**	**23,624**	**643**	**30,405**	**28,608**	**3,995**	**129,254**	**116,273**	**85.41**	**90.54**	**22,612**	**12,667**	**15,129**	**15,144**	**7,829**
Southern	3 mos.	401,345	9,700	411,045	366,164	68,964	70,066	4,579	73,529	65,564	17,253	332,125	293,944	80.80	80.27	70,634	65,258	58,829	49,343	50,758
	6 mos.	792,039	19,992	812,031	703,876	133,358	131,088	9,777	147,148	129,992	35,552	657,520	570,555	80.97	81.05	145,391	114,058	112,090	100,557	86,594
Southern Pacific	**3 mos.**	**487,535**	**13,628**	**501,163**	**496,481**	**63,047**	**70,508**	**4,876**	**133,583**	**131,292**	**20,385**	**493,831**	**458,032**	**98.53**	**92.25**	**3,728**	**43,422**	**5,120**	**1,316**	**37,967**
	6 mos.	**968,619**	**29,970**	**998,589**	**938,260**	**125,670**	**138,671**	**9,668**	**266,012**	**251,348**	**39,959**	**996,129**	**882,601**	**99.75**	**94.06**	**(5,721)**	**65,945**	**3,392**	**(5,371)**	**60,008**
Union Pacific	3 mos.	474,639	7,093	481,732	439,049	79,952	79,314	2,643	95,949	78,757	23,524	427,581	371,879	88.75	84.70	41,924	57,691	43,376	31,090	42,116
	6 mos.	942,890	16,324	959,214	839,891	157,487	136,976	5,386	188,718	157,276	46,029	845,456	707,275	88.14	84.21	89,891	114,354	90,404	66,513	81,150
Western Maryland	**3 mos.**	**24,263**	**715**	**24,978**	**20,555**	**5,752**	**3,580**	**179**	**2,964**	**2,386**	**1,331**	**19,265**	**15,725**	**77.12**	**76.50**	**6,640**	**4,475**	**3,388**	**4,305**	**3,397**
	6 mos.	**42,415**	**2,100**	**44,523**	**37,586**	**9,804**	**6,345**	**323**	**6,345**	**5,969**	**2,439**	**38,078**	**30,787**	**85.52**	**81.91**	**7,668**	**7,030**	**3,644**	**4,850**	**5,136**
Western Pacific	3 mos.	42,055	647	42,702	42,208	6,081	5,691	88	11,874	11,191	1,679	46,241	41,484	108.28	98.28	(1,679)	1,056	(3,276)	1,465	890
	6 mos.	84,364	1,320	85,683	78,794	11,106	10,982	174	21,566	19,818	3,381	88,185	76,963	102.92	97.67	(863)	1,694	(2,356)	(815)	890

*** Includes subsidies**

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Regional Sales Mgr.

Pittsburgh, Pa. 15237
3232 Babcock Boulevard
(412) 931-8552
Ronald M. Giallonardo,
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Atlanta, GA 30328
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Market

CARLOADINGS

Loadings of revenue freight in the week ended Sept. 20 totaled 452,035 cars, according to the Association of American Railroads. This was a decrease of 32,594 cars, or 6.7%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Sept. 20 are estimated at 17.9 billion, a decrease of 2.4% below the corresponding week of 1979.

REVENUE FREIGHT CARLOADINGS

Commodity	Sept. 20 week	Sept. 13 week
Grain	33,181	33,309
Farm products	4,259	3,927
Metallic ores	28,265	26,906
Coal	119,225	120,125
Crushed stone, gravel & sand	15,619	15,274
Nonmetallic minerals	16,262	17,175
Grain mill products	17,524	18,014
Food and kindred products	18,747	18,789
Primary forest products	19,025	20,217
Lumber & wood products (except furniture)	9,322	8,861
Pulp, paper & allied products	20,647	20,580
Chemicals & allied products	26,734	26,411
Petroleum products	5,588	6,106
Stone, clay & glass products	16,008	16,867
Coke	4,308	3,687
Metals & products	14,851	14,127
Motor vehicles & equipment	16,934	16,163
Waste & scrap materials	12,475	12,283
Forwarder & shipping assn. traffic	11,075	10,642
All other carloads	41,722	42,127
LCL traffic	264	248
Total cars loaded	**452,035**	**451,838**
Cumulative total	1980	1979
38 weeks	**16,492,259**	**17,419,615**
Estimated revenue ton-miles (billions), 38 weeks	**665.4**	**658.1**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Sept. 13 totaled 32,262 cars (8.7% below the corresponding holiday week of 1979) and 58,405 trailers or containers (down 5.1% from 1979). Cumulative volume for the first 37 weeks of 1980 is 1,179,907 cars (down 10.6% from 1979) and 2,149,276 trailers or containers (down 7.7% from 1979).

- *Amtrak.*—Directors authorized expenditure of $54 million over the next 10 years to expand and modernize Amtrak's reservations system. The money will be used to install new computers, lease a new telecommunications system, and modernize central reservations offices in New York, Philadelphia, Chicago, Los Angeles, and Jacksonville.

- *Chicago & North Western.*—Ordered 500 100-ton covered hopper cars for grain and grain-products service from FMC at a cost of more than $20 million, with deliveries scheduled to begin in mid-November. C&NW has also asked for bids on 750 to 800 covered hopper cars for 1981 delivery.

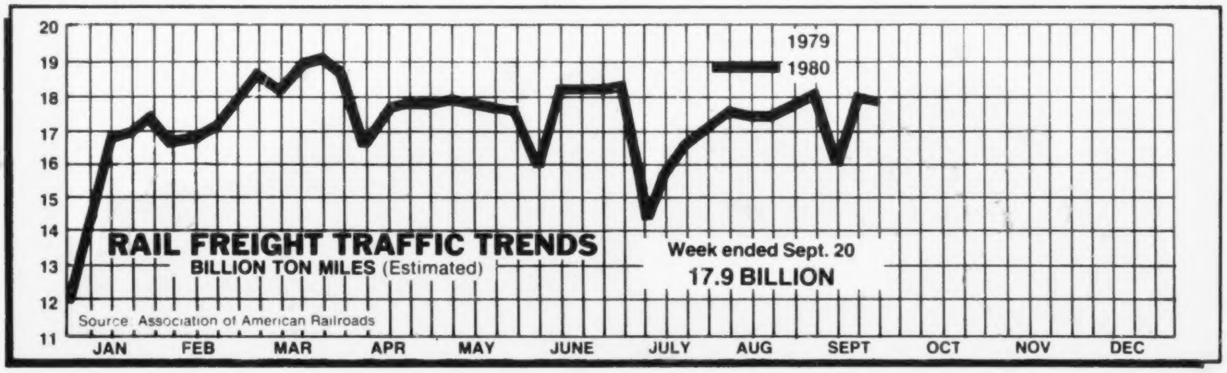
- *Louisville & Nashville.*—Will acquire more than 5,000 coal hopper cars to be built at Chesapeake & Ohio's Raceland, Ky., car shop during the first three years following merger of the Chessie System and Seaboard Coast Line Industries into the CSX Corp. That merger was approved by the ICC late in September. Construction of the L&N cars at Raceland will result in "a considerable savings compared to the cost if purchased from outside carbuilders," said a joint Chessie-Seaboard announcement.

- *Milwaukee Road.*—Will lease 725 new 100-ton covered hopper cars for grain service, 225 cars on a long-term lease and 500 under two short-term leases. Lessors involved are Brae Corp., Xtra, and Rex.

- *New Jersey Department of Transportation.*—Delivery of 57 push-pull cars ordered from Bombardier, a Canadian firm, is scheduled to take place between December 1981 and early-spring 1982. Included in the $43-million order are 44 trailer cars and 13 cab control cars. Bombardier is currently evaluating several sites in the U.S. for opening a new plant.

- *New York Metropolitan Transportation Authority.*—Awarded a $177,978 contract to Data Communications, Inc., a consulting engineering firm, to examine ways of improving the heating and air conditioning systems on equipment used on the Long Island Rail Road and on Conrail's Harlem, Hudson, and New Haven lines.

- *Southern Pacific.*—Awarded a $2.4-million contract to GTE Telecommunications System for supply and installation of two digital, computer-controlled telephone systems. A GTD-4600 private automatic branch exchange will be installed at SP's corporate headquarters in San Francisco. Some 2,000 extensions will be linked to the system, which also will serve as a switching center to provide easy dial access to all SP facilities. A GTD-1000 PABX, serving 500 extensions, will be installed in Oakland. Installation of both systems is to be completed early in 1981.



RAIL FREIGHT TRAFFIC TRENDS
BILLION TON MILES (Estimated)

Source: Association of American Railroads